STRATEGIES FOR PEASANT FARMER DEVELOPMENT : AN EVALUATION OF A RURAL DEVELOPEMENT PROJECT IN NORTHERN SIERRA LEONE

BY

John Arouna Karimu

A thesis submitted for the degree of Doctor of Philosophy in Geography

University of London

July 1981

DEDICATION

This study is dedicated to Kénei Kaimu and Yié Miatta - two people who have sacrificed most for my betterment in life.

ABSTRACT

This study seeks to focus on an assessment of the Social and economic impact of policies adopted by a World Bank-supported rural development scheme to develop improved rice production in North-Central Sierra Leone: The Northern Area Integrated Agricultural Development Project (IADP). Particular attention is paid to an examination of the spatial impact of the project. Because IADP is designed to promote development for 'smaller' and 'poorer' farmers, attention is focused on separating different groups of farmers and attempting to measure their responses to, and potential for participation in the process of rural transformation. Allocation of infrastructural facilities within the project area is intended by project planners to facilitate project activities in 'difficult' areas and to open up hitherto 'remote' communities to the exchange sector of the economy. This study attempts to argue the point that there is little evidence of any correlation between the pattern of resource allocation and 'need' defined in terms of population concentration, agricultural resource potentials and/or inadequacy of existing facilities.

The following typify some of the detailed conclusions derived from this study:

(a) The effect of IADP credit policy is to increasingly direct available loan capital to 'wealthier' farmers who are committed to a process of transition from farming to merchant capital - dominated trading sectors of the national economy.

(b) That farm labour supply imposes a greater constraint on efforts to increase agricultural output than the supply of suitable farmland. Labour shortages are widespread and reflect the heavy outmigration of young males to urban c entres.

(c) Labour 'companies' or work groups supply significant amounts of farm labour inputs in the study area. The existence of these work groups acts to stratify the rural communities into three categories of peasants: 'poor', 'middle' and 'wealthy' peasants.

(d) The distribution of project farmers shows a reasonably even response over the project area. Spatial allocation of project infrastructure has, however, tended to produce an anomalous pattern. Consequently, there are some inadequacies in the emerging spatial structure.

(e) Overall the results emphasise the need to take account of farmers' views and understanding of the process of agrarian change.

ACKNOWLEDGEMENTS

A number of institutions and individuals offered me different kinds of assistance at various stages in the preparation of this study. The Department of Geography, Fourah Bay College, kindly allowed me leave of absence in order to complete this study. The Departmental head (Dr Enid Forde) and other colleagues gave me immense support - intellectual and otherwise - while I was undertaking this work. My sincere thanks to all of them.

I owe much gratitude to the management and staff of the Northern Area Integrated Agricultural Development Project, Makeni, for providing me with vital logistic support throughout the period of field investigation. Unrestricted access to project personnel and documents greatly contributed to the development of ideas and analyses contained in this thesis. My sincere thanks also to the staff of the Inter University Council, London, for funding my period of residence in London University.

I am especially indebted to my two academic supervisors - Prof. B W Hodder and Dr. Paul Richards - for offering me much needed intellectual guidance during the preparation of this study. In particular, Dr. Richards' commitment to offer help and advise at moments when I felt deeply inadequate proved an invaluable source of encouragement and intellectual stimulation. His rigour, insightful comments and painstaking attention to detail has immeasurably helped me in identifying future areas of research as a supplement to material presented in this thesis. I am personally proud to have undergone my academic apprenticeship under Dr. Paul Richards - a friend and a supervisor.

This work would not have got off ground without the help and cooperation of the farmers of the survey villages. Time spent at interview sessions as well as explanation of several issues examined in the field is very highly appreciated. The hospitality, encouragement and active interest in the progress of the work displayed by Pa Yaya, Pa Gbla, and Pa Kargbo of Bumban, Matotoka and Gbendembu respectively proved vital and invaluable to the data collection phase of this study.

My friends and colleagues - John Koroma, Moray Johnny and Brimah Josiah offered me invaluable companionship as well as intellectual stimulation during the course of my fieldwork. Together, we were able to 'construct' a humorous dimension to an otherwise colourless

academic exercise.

In several important respects the following people offered help in the course of the preparation of this thesis. These include Mr and Mrs Bangura, Dabah H Kallon, John Benjamin, Marie Munu, Mr and Mrs Sesay, Mr and Mrs Lansana (London) and Mr and Mrs Kormoh (London). My sincere thanks to all of them and many others who are not mentioned by name here.

Anthony Koroma and David Kamara made the unique contribution of being efficient field assistants. We would always remain friends in the struggle to survive.

Finally, my deep appreciation to my wife, Musu, who has firmly stood by me during all the difficult times over the research period. Her remarkable endurance of the inevitable emotional problems linked with the need for me to stay overseas in order to complete this study is most highly appreciated.

I am highly indebted to Nicky for patiently and efficiently typing the thesis from a difficult-to-read manuscript.

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CHAPTER 1

THE PROCESS OF DEVELOPMENT: SOME THEORETICAL CONSIDERATIONS.

1:1 Introduction

The period since the Second World War has been marked by a resurgence of interest in the analysis of the social structures of 'underdeveloped' societies. In general this interest has tended to focus on macro-level models capable of accounting for the development process as it occured in Western capitalist social formations and, more importantly, predicting the trajectory of development for the countries of the Third World under the assumption they would follow a broadly similar path. Consequently it was assumed by many commentators that Third World countries would replicate most aspects of the Western European experience (not withstanding significant Socio-cultural differences as well as differences of opportunity between the two areas and eras). Not surprisingly, therefore, it has been widely assumed (by both Marxist and non-Marxist scholars) that theoretical frameworks developed to explain the transition from feudalism to capitalism in Europe could be used as a basis for understanding Third World development processes. These assumptions have been subject to more recent critical scrutiny by a number of Third-World based academics and development practitioners (cf. Frank, 1969; Mabogunje, 1980).

This chapter reviews some of the theoretical debates relating to the nature and process of development or underdevelopment which have formed up around this general issue. It outlines the main features of existing paradigms and attempts a critique of conventional approaches to the problem of analysing underdevelopment Some attempt will be made to examine the conceptual basis of contemporary rural development planning. Particular attention will be paid to the assumptions underpinning 'interventionist' approaches to rural development and the understanding of social change such approaches themselves generate. This chapter will also briefly examine some of the key issues involved in agricultural development planning (as part of the package of actions designed to bring about economic development) in the specific context of Sierra Leone. A major objective is the development of a critique of the model of agricultural development appropriate to the potentials and problems of Sierra Leone. The final section of this chapter contains a statement of the principal hypotheses examined in

this study, and a discussion of problems raised by the field research. Thus, overall, the aim of this chapter is to locate the present study within the corpus of knowledge concerning processes of economic development and social change and also to outline how the specific material presented later in this thesis illuminates some of the theoretical issues involved in the analysis of social change.

1:2 Theories of Underdevelopment

To date most approaches to the explanation of underdevelopment in the Third World tend to fall into two contrasting conceptual frameworks.

These are:

(i) those writers who adhere to a neo-evolutionary 'diffusion of modernization' approach which conceives of change as resulting from contact of non-western societies with 'Western' countries and ideas.

(ii) those analysts who espouse a neo-Marxist or Marxist interpretation of the process of underdevelopment.

The main features of each of these dominant schools of thought will be examined in turn.

Modernization (or diffusion of innovation) theory takes as its starting point the notion that developing societies are charcterized by 'economic dualism' i.e. the co-existence of two sectors or systems within a single economy (cf Lewis, 1953; Hoselitz, 1960; Moore, 1963; Smelser, 1963; Kilson, 1966; Soja, 1968; Riddell, 1970; Smith, 1972; King, 1979). The most widely accepted formulation of the 'dual economy' theory views the existence of dualism as a 'natural' stage in the 'modernization' process. Granted some slight differences in emphasis from one modernization theorist to the other, the underlying assumption in the conception of a dual economy is that the two sectors have developed with separate and largely independent structures each with its own history and dynamic.

The only relationship between the two sectors, it is argued, is the movement of unlimited supplies of surplus labour from the subsistence-based traditional sector (itself characterized by stagnation and marketlessness) to the technologically sophisticated capitalist, urban-based modern sector (conceived as dynamic, market oriented with a

highly differentiated social structure). Thus modernization, according to Riddell, is the 'process whereby traditional institutions, methods, and patterns of life are adapted to or replaced by new, more modern forms' (Riddell, 1970:44). King (1979:92) further notes that 'as modernization takes place new life styles, facilities and opportunities are presented to people who respond to them by moving closer to the source of all that is new' until the whole society becomes urbanized (my emphasis)

One implication of modernization theory is that the traditional sector is outside the limits of the 'exchange economy' and hence marginal to the national as well as the wider world economy. Thus the concept of 'marginality' is implied in most modernization thesis. Development is therefore primarily a process of adaptation to change diffused from outside the traditional, marginal sector. The World Bank essentially shares this view of development and consequently Bank - supported programmes of change are designed explicitly to achieve integration of isolated rural societies into the market economy. As argued in chapters 4 and 5 such a conception of marginality is mistaken in one major respect i.e. 'marginality' is used as a descriptive category to explain a series of social attributes characteristic of certain groups in society rather than being understood as a consequence of the social structure itself. In chapter 5 the point is argued that African peasant societies exist neither as isolated units nor marginal sub-units in the sense of units failing to participate in the exchange economy (cf Rodney, 1976; Abraham, 1976; Shaw and Grieve, 1977; Fyle 1979). Rather it is suggested that these societies have been and continue to be a dynamic part of 'national' exchange systems (see chapters 3, 4 and 5). The notion that a subsistence agrarian sector of Third World Countries exists only to supply unlimited supplies of surplus labour to the urban/industrial sector is also questionable. In chapter 4 the analysis followed suggests two important trends for comprehending the links between the two sectors (see section 4:9 of chapter 4). These are:

(i) that labour is indeed tranferred from the rural to the Urban sectors but that such labour is not in excess of the needs of the agrarian system. It is argued there that such transfers represent a consequence of structural, social as well as spatial, inequalities that are, in the main, generated and reproduced by externally - orientated power blocs (class f actions) in the colonial state (and its successors).

(ii) That in economies with a substantial 'subsistence' sector (dynamically related to the other sectors via extensive merchant trading interests it is the rural, so-called

'traditionl' sector that bears the 'cost' of reproducing the urban labour force. Evidence on rural-urban remittances suggest that this is a continuing commitment and constitutes a deliberate strategy employed by those with potential merchant interests to increase their participation in the 'urban' economy.

The evidence of the present study adds to the view that modernization theory is an inadequate analytical framework for understanding social change (see Shaw and Grieve, 1977 for a summary of recent research and theoretical analysis of this position).

A further implication of modernization theory is the notion that a developed society implies a highly differentiated social structure whereas an underdeveloped society is, in some sense, 'homogeneous' (cf Smelser, 1963; Riddell, 1970; Kilson, 1966). Detailed analysis of societies which are offered as examples of this second condition however, reveals considerable evidence of marked socio-economic differentiation (cf Hill, 1970; Karimu and Richards, 1980). As argued in chapter 4, simple and uncritical notions of egalitarianism such as those based on the notion of 'generalized reciprocity' among African peasants (see Meilleisoux, 1965 cf Burnham, 1980) underestimate the degree of exploitation and inequality between different groups in rural society. This point is returned to in chapter 8 where women farmers are shown to be especially disadvantaged when access to land and labour resources are considered in the specific context of northern Sierra Leone.

Regional growth pole analysis is an outgrowth of modernization theory that is of particular interest to Geographers (see Berry 1967; Gauthier, 1971; Mabogunje, 1971; Monsted, 1974; Darkoh, 1973, 1978) and other development planning analysts.[1] According to this framework, Perroux's (1950 and 1955) original notion of 'growth pole' (Poles de croissance) becomes a theory of the way in which economic development is polarized at specific geographical locations. Such locations tend to be large urban agglomerations where industrial development is concentrated. Given rapid rates of growth

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1: See for example the various mimeographed publications of the United Nations Research Institute for Social Development, Programme 1V– Regional development.

at such centres, it is argued that sufficient potential energy is developed for innovation to diffuse outwards from the 'core' to the 'peripheral' areas. It is suggested in most growth pole analysis of development that the intensity of the impact of the forces of change (generated in the core areas) follows a distance - decay spatial pattern. Adequate infrastructural development, it is argued would ensure that all parts - even the most isolated communities - eventually experience the benefits of change.

In the terms of this typology, therefore, spatial inequalities become positive characteristics of the regional framework in which social change occurs. Infact such inequalities provide the basis for the diffusion of modernization. Both Myrdal(1957) and Hirschman (1958) argue that development is necessarily geographically unbalanced. Hirschman (1958: 83-84) implies that such inequalities are natural when he noted that:

> We must take it for granted that economic progress does not appear everywhere at the same time and that once it has appeared, powerful forces make for spatial concentration of economic growth . . . . An economy to lift itself to higher income levels must and will first develop within itself one or several regional centres of economic strength.

In later chapters, an attempt is made to examine the validity of the assumption that the benefits of development would be transmitted naturally into remote areas (see chapter 9). A major limitation of this framework is its failure to take account of the political context in which regional development planning decisions are made. Consequently, growth pole analysis tends to emphasise, in Darkoh's (1978) phrase, 'a place prosperity approach' as opposed to a 'people prosperity approach' to economic development. Thus the theory is incapable of suggesting a mechanism for reaching the 'poorest of the poor' in the development process.

In spite of the lack of a clear 'political' perspective, growth pole theory has had considerable practical appeal. One reason for this derives from the fact that it provides a quick answer to the thorny problem of how to initiate the planning process i.e. by suggesting a concentration of investment in the first instance in a few favoured localities. As argued in chapter 9 of this study much of the theoretical inspiration for the Integrated Agricultural Development Projects (IADP hence forth) in Sierra Leone appears to have come from growth pole thinking. In this respect the view of a senior

official involved in this kind of work is instructive:

> We concede that the IADP has neither the financial resources nor the man power for every farmer to be reached in the project area. But, however, we hope that the benefits of the new farming techniques would eventually reach more remote villages, especially when new areas become opened up by the feeder road construction programme.[1]

The reliance on 'automatic' transmission processes suggested in the above quotation is argued elsewhere to account for the fact that in the context of IADP no systematic relationship exists between spatial resource allocation on the one hand, and the spatial pattern of need (need defined in terms of opportunities and constraints in the environment) on the other. One consequence of this is the concentration of project infrastructure in areas where it is least needed and the resulting tendency for the project package to reach farmers who appear to have only a part-time commitment to farming.

There is insufficient space here to develop a major critique of the modernization paradigm. However, there are grounds (following the trend of much recent radical scholarship) for suspecting that this approach is inadequate for the reason that Third World Countries are not simply in a position equivalent to a stage reached by Western Capitialist nations earlier in their developmental history. As Moser (1977), among others, suggests the 'dual' socio-economic structures of Third World Countries must be interpreted within the field of historical materialism and its subsequent imperialist colonization of the periphery. The following paragraphs will focus on a review of alternative attempts at explaining underdevelopment.

The inadequancies of modernization theory (for example the lack of specification of the significant distinctions between what the process involves and what the effects are) led to attempts to conceptualize the interrelations likely to emerge in the confrontation between capitalist and pre-capitalist modes of production. The ensuing debate has given rise to theories which seek to explain the mechanisms of imperialist

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1: Transcript of a recorded interview at the IADP headquaters, Makeni - July 1979.

expansion of the capitalist mode of production in the 19th century. Probably the best known example of these approaches is the so-called Hobson-Lenin thesis. The fundamental argument is that imperialism constituted a response to the twin crises of over production and under-demand in the metropolis. In effect capitalist expansion took place because of the need to create new investment opportunities in colonial states so as to compensate for the rapidly declining rates of profit in the home regions. The Hobson-Lenin thesis, and similar lines of analysis, suggest that in the long run inperialist expansion will lead to a net outflow of capital to the colonial territories (i.e. capital accumulation will occur in the periphery to a point at which equalization of rates of profit between periphery and metropolis occurs). As noted by Roxborough (1979) and Mabogunje (1980), among others, colonial territories proved to be net exporters of value rather than net receivers of capital. This point is succinctly summarized by Roxborough (1979: 58) thus:

> The data reveal a net outflow of capital from the Third World to the Metropolis. That is, for every dollar invested in the Third World, more than one dollar returns to the metropolis in the form of repatriated profits, royalties, services, repayment of debt and iterest... (emphasis supplied)

Thus like 'stages of growth' theory reviewed earlier, theories of imperialism proved, in the main, incapable of explaining the lack of economic development in the Third World (i.e. they predicted that rapid capitalist development would and should occur: a prediction not borne out in practice). It is the failure of such predictions which has provoked the emergence of a new school of thought on the global pattern of development and under development. This group of theories are known as 'dependency analysis.' This framework derived much intellectual guidance from Marxist dialectical or historical materialism in which, Mabogunje (1980:26) observes, 'underdevelopment is seen as intrinsically part of the same process that brought about development in the present advanced industrialized countries' (cf Frank, 1967, 1969, 1972: Amin, 1972; 1973; Dos Santos, 1973; Rodney, 1976; Shaw and Grieve, 1977; Arrighi and Saul 1973; Enaharo, 1976; Foster Carter, 1974. Also see Roxborough [1979] for a recent summary and critique of the dependency paradigm). Dependency analysis suggests that the capitalist 'exploitation' of underdeveloped countries occurs more in the realm of unequal exchange (as seen for example in the relationship between EEC countries on the one hand, and Third World countries that contributed to the Lome convention). Appropriation of raw materials and agricultural commodities either through direct plunder or via extremely favourable terms to the advanced capitalist state (as opposed to the direct appropriation of surplus created by the labour power of the wage workers) is suggested to characterize the process of underdevelopment

in Africa and elsewhere in the Third World.

The dependency formulation of underdevelopment therefore, seek to emphasise the inter-connections between the processes of development and underdevelpment. Griffin (1968:38) underscores it thus:

> Underdeveloped countries as we observe them today are a product of historical forces, especially those released by European expansion and world ascendancy . . . . Europe did not 'discover' the underdeveloped countries; on the contrary, she created them.

Thus by contrast to modernization formulations, dependency theory appears to have three fundamental implications that are critical for an analysis of change in contemporary African societies. The first of these concerns the point that development is essentially a human isssue i.e. it focuses on the capacity of individuals to realize their inherent potentials and cope with emerging circumstances in their environment. In a later chapter, the issue of how different groups of farmers perceive, abstract and interprete agricultural possibilities and constraints in their day to day decision framework will be examined (see chapter 7). Thus development at this scale involves the ability of individuals to take advantage of potentials in themselves as well as in their surroundings. Thus viewed, the so-called indices of modernization simply become part of the means for attaining self realization.

The second implication of dependency analysis is that the development process has explicit ideological and/or political dimensions. This point is noticeable by its absence in the earlier formulations reviewed and is, it has been suggested, one reason why solutions based on them have not worked out in the predicted manner. Myrdal's definition of development as 'the movement of the whole social system upwards' is instructive. Professor Mabogunje, in a recent departmental seminar (University College, London) argued the case for African development plans to have an explicit chapter on ideology and social change. Since development implies a restructuring of social institutions it is quite vital for the groups concerned to have some clear image of the kind of 'developed society' which is being generated or aimed at.

A further point emerging from the literature on dependency relates to the issue that development involves a redefinition of a state's international relations. The notion of a dependent status for an underdeveloped economy itself suggests that development should offer much greater

opportunities for a shift from 'an outward - oriented, dependent status to a self-centred and self-reliant position' with regard to the decision-making apparatus as well as the system of production being developed. Together, these points underscore the importance of seeing development within a 'world system' context. The notion of 'dependence' has been criticised for its stress on the passive role it assigns to 'local' elites in the face of an aggressive western capitalism. It is therfore important to note that 'dependency' is sustained and reproduced through the interdependence of both local and alien elites. Despite growing critcism of theoretical weaknesses and ambiguities the approach adopted in this thesis is that, in planning contexts, dependency theory still offers a useful basis from which to develop a critical reassessment of current strategies for setting the development process in motion. The next section will briefly examine the conceptualization of rural development planning practice, making use of insights deriving from dependency theories critique of modernization.

1.:3

The Conceptual basis of Rural Development Practice

The immediate post-Independence era for Third World countries in general , and African countries in particular, was characterized by emphasising industrialization as a focus for development planning at the national level. Consequently, substantial resources were directed at the development of the urban sector in which industries were to be located. Both the scale of this effort and the unsatisfactory results produced were recently summarized for Sierra Leone thus (in a major review of past Government development strategies):

> The major development efforts pursued since Independence have been in industrialization through import-substitution - - - - - - - - - The new industries have been largely characterized by capital-intensive methods, low employment generation, limited reinvestment of profits, low linkage effects with the domestic economy and over-dependence on imported raw materials (National Development Plan, 1974/75-1978/79:1)

In effect these initial attempts of state intervention in the development process fell short of expectation. A major consequence of the failure of urban-based development has been the rise of interest in 'Rural Development' as a policy priority (cf Hunter et al, 1976; Lele, 1975; World Bank 1975) as well as a distinctive field of research (cf Barker, Oguntoyimbo and Richards 1977; Johnny, 1979; Pearse, 1980; Mabogunje, 1980; Karimu and Richards, 1980). The strategy of rural development emerging from the various approaches by academics and practitioners appears to be defined by its concern with equity objectives of several types-especially those relating to the reduction of inequalities in income and opportunities, and in access to social services and the alleviation of poverty. It is the contention of the present study that 'Rural Development' owes its distinctiveness to this focus on distributional issues rather than an exclusive emphasis on growth per se. It is also contended that an understanding of the process of rural development requires a critical appraisal of the forces which determine relations of production in rural societies. Thus a major objective of the present study is to examine some of the assumptions on which Rural Development strategies are based through the analysis of the processes of change either initiated by IADP or reinforced by it i.e. to contribute to the development of a framework for understanding the nature of the phenomena with which the practitioners of 'Rural Development' interact.

Rural development has been defined as being 'concerned with the improvement of the living standards of the low-income population living in rural areas on a self-sustaining basis, through transforming the socio-spatial structures of their productive activities' (Mabogunje, 1980: 94 cf Lele, 1975). Viewed thus, rural development assumes the form of a comprehensive process of social change involving the basis of redefining the social relations that characterize rural society. Rural development in this sense therefore, encompasses and transcends 'agricultural development'. The World Bank on the other hand, appears to conceive rural development in terms of state intervention. Accordingly, rural development is defined as '. . . . . a strategy designed to improve the economic and social life of a specific group of people - the rural poor' (World Bank, 1975). Some of the problems arising from the latter conception of rural development are examined in chapter 5. The process of rural development therefore suggests concern with issues other than agriculture in the rural economy. In particular the analysis of distributional issues requires an approach in which the broader social and political factors interacting with economic processes are subjected to critical scrutiny.

State intervention in rural change processes predates the wide recognition of the rural subsector in many African countries. Lele (1975) carried out an extensive review of past projects in Sub-Saharan Africa. Thirteen projects were selected to represent diversity in design and implementation as well as the environment in which these were located. The resulting analysis emphasised three main aspects of contemporary approaches to rural development in Africa:

(i) High capitalization of the schemes reviewed. Estimates ranged from below $ 0.5 million to over $ 30.00 million in the cases analysed (Lele, 1975: 8-11)

(ii) the importance of foreign donors in financing the various categories of rural development programmes identified by Lele. A number of multi-lateral, bilateral and national agencies provided a significant proportion on all of the funding for the project. The World Bank and its subsidiaries played a significant role in the financing of these projects.

(iii) the relatively small size of the target population for the different programmes, ranging from a few thousand to about 2 million inhabitants. It is however, significant to note the point made by Lele in a foot note that the population estimates refer to 'the number of persons living within the project area, many or most of whom are not direct participants in programme activities' (my emphasis).

Rural development approaches of the types noted by Lele (1975) has generated considerable

criticism (see the collection of papers in Hunter, Bunting, Bottrall, 1976; IDS Bulletin, No.10, 1978; Mabogunje, 1980; Atteh, 1980). As noted by Mabogunje, (1980:100) rural development programees cannot be evaluated in terms of whether the stated objectives are achieved or not but whether such objectives are appropriate in the context of many African countries. This point is taken up in some detail in chapter 5 in an attempt to offer a critque of World Bank approaches to rural change. For example while most rural development projects in Africa to date compute target populations in terms of thousands, the extent of rural poverty suggests that the enormity of the task involved can better be appreciated in terms of millions of people. Rural development projects have also been criticised for tending to heighten existing inequalities of wealth among the rural population. Faulty design as well as inadequate analysis of the mechanisms which serve to ameliorate inequalities, it is argued, account for this phenomenon. A recent review of the African data by Pearse (1980) suggests that rural credit has mainly reached the already wealthier members of rural society, leaving poor farmers worse off (cf Karimu and Richards 1980). A major contention of the present analysis is that IADP loan capital appears to be reaching wealthier rather than poorer households. In particular it is argued that the framework within which credit relations are contracted appears to be manipulated in ways that will reinforce existing unequal relations of power within village communities (see chapter 5).

A further and more fundamental criticism of contemporary rural development planning emanates from radical analysts. These writers view rural development approaches (such as those reviewed by Lele) as part of a new technocratic ideology based on the assumption that production in the traditional, inefficient agrarian sector of African countries can be made more efficient by simply adopting 'modernization' packages in a 'top to bottom' manner. This ideology, it is argued, is seen most strongly in the current popularity of Integrated Rural Development Projects in Africa and the Third World. This 'Project fever' (in the words of Maboganje, 1980) is analysed as part of the modernization paradigm of development and rejected because of its inability to generate self-sustained development. Earlier in this chapter, this paradigm was reviewed and the suggestion made that it is neither an adequate analytical tool nor is it likely to provide a basis for formulating development strategies (rural or urban) in Africa. A corollary criticism relates to the point that modernization - based projects aim to 'reach' rather involve the local population in formulating the mechansims for initiating social change. Consequently, it is argued, eventhough such projects are undertaken to improve the welfare of the rural masses, their overall effect has often been to maintain the status quo rather than promote real social change. Mass participation demands that resources are allocated to poor regions and social classes. In chapter 9 issues relating to the regional allocation of resources within the

context of IADP are examined as a way of illuminating questions of mass participation in the process of rural development.

1:4 The background to contemporary agricultural development planning in Sierra Leone

This section attempts to outline the origin of official approaches to the development of the agricultural sector in Sierra Leone. The overall aim is to explore the extent to which planning policies reflect vested interest in governmental circles and the reaction of the farming community. Later in Chapter 4 the point will be argued in some detail that different farming systems tend to reinforce the interests of members of different social groups in radically different ways.

Colonial records suggest that an official agricultural development policy, as a general framework for state intervention in the process of agrarian change, for Sierra Leone was first launched in 1933 (though, obviously, government had long before that formulated specific agriculture policies). The 1938 annual report of the colonial Department of Agriculture confirmed this thus:

> It is now five years since this policy was framed---and approved by government as the official policy of the department of agriculture.

Sierra Leone has three operational integrated rural development schemes, two of which are partly financed by the International Development Association of the World Bank and one by the EEC counterpart funding provided by the Sierra Leone Government in all three cases. The present study is focused on a socio-economic analysis of the Northern Area Integrated Agricultural Development Project. The latter was initiated in 1976 and covers ten northern Sierra Leonean chiefdoms with a 1974 population of ca. 215,000 and centred on Makeni. Additional information on aims and objectives of the project are found in Appendix 5 (also see page 140).

The pricipal components of this 'plan' included: Firstly, the adequate provision of food for the people. This self-sufficiency objective in food production was expected to be achieved largely through:

> the improvement and spread of swamp rice cultivation
> to such an extent that not only will needs of the people
> be supplied in a bad year but there will be a surplus for export in
> ordinary years [(my emphasis) Ibid: 1938].

Accordingly, a technological package for the improvement of peasant production was suggested. This essentially concerned the establishment of an agronomic rice research station at Rokupr. In short, the earliest policies of agricultural development were formulated largely in 'technical' terms.

The second aspect of colonial agricultural development policy focused on the need to exploit 'wild trees for export purposes. Oil palm, cocoa,coffee, Kola, Fruits and Piassava were the main crops involved. It is important to note that cash crop farming was essential to the survival of the colonial administration as well as the survival of Metropolitan industries whose raw material base was in the periphery (cf Richards, 1977; Riddell, 1971; Mabogunje, 1980). Cash crop production played a significant role in decisions relating to the regional pattern of infrastructure development. Consequently roads and railways were designed and structured to serve these all important cash crop interests. As with the food subsector, the strategies designed to achieve rapid expansion in cash crop production were mainly technical.

Central to the two main objectives outlined above was the need to 'arrest the degradation of forest growth' (Department of Agriculture, 1938) or at any rate increase the regeneration period between successive cultivations of the same plot. This was as much to protect 'wild' economic resources such as oil palms as a concern for failing rice yields on shifting cultivated farms.

It is significant to note that all three aspects of colonial agricultural planning approaches reviewed above continue to be central to post-Independence state intervention strategies in agrarian change. It is suggested here that failure to undertake a critical reassessment of this policy position by the newer generation of politicians and bureaucrats partly explains the lack of consistent success in efforts at developing this vital sector. At several points in this thesis this argument is elaborated to establish that agricultural planning requires more than a 'technical' approach (cf Njoku, 1979; Johnny, 1979; Karimu and Richards, 1980; Pearse, 1980). It is

argued (in Chapter 5 for example) that agricultural change processes have important social and political dimensions which remain 'under-analysed' within a technocratic framework. Analysis of the reasons for the failure to undertake the kind of reassessment referred to above was viewed more appropriate as a focus for future research by the author.

One of the objectives of the present study is to use material concerning the social and economic impact of IADP as a basis for developing a critique of the model of agrarian change noted above. It is, however, significant at this jucture to note that clear reasons existed during the colonial era for the technical and cash crop emphasis. The 1938 Department of Agriculture report gives some indication of the reasons for the policy of encouraging small farmers to adopt swamp cultivation rather than upland rice production (eventhough c. 70% of local rice production comes from the latter). This can be appreciated within the context of broader macro-economic processes affecting the west African subregion and the rest of the world. Hopkins (1973) shows that the last quater of the 19th century in West Africa marked a period of sharp decline in the staple export economy of these territories. Such declines, argues Hopkins, were attributed to 'excessive supply of tropical commodities in the Metropolis' as well as the effect of the Great Depression. Sierra Leone's agriculture, especially the export crop sector, was part of this process. For example Hopkin's data suggests that between 1886 and 1900 palm oil exports from Freetown and other West African ports fell sharply (see Hopkins, 1973: 134). This general declining trend continued till 1938 when further declines were noted for palm kernel exports. Two further factors were cited by colonial sources in Sierra Leone to account for the latter decline. These were:

a) that lower prices had the effect of providing a strong disincentive for collecting palm fruit;

b) 'the very big increase in upland farms in 1937 and 1938' was another reason underscored by colonial records. The process of burning upland farms appear to have caused a set back to the productive capacity of oil palm trees. Consequently, it was necessary to discourage the widespread use of uplands by peasant producers in order to protect palm resources needed when prices recovered. It would be possible to argue, therefore, that colonial government concerns centred on a policy designed to conserve the cash crop sector during a period of low prices expressed in terms of rhetoric concerning the need to arrest 'the degradation of upland soils' (Department of Agriculture report, 1938 cf National Development Plan, 1973/74 - 1978/79), despite the lack of conclusive evidence for the existence of such a process on a massive scale (even today the precise status of the soil erosion hazard is in doubt though subject to careful current research). In 1938 the colonial administration admitted this and underlined 'the importance of preserving high bush in connection

with the oil palm industry[1]. In chapter 4 it is shown how colonial agricultural planning approaches have been uncritically adopted by contemporary planners. The assumptions underlying these policies are due, therefore, to be scrutinized with care.

1:5 The focus of the present study.

Material presented in this thesis attempts to examine four sets of hypotheses relating to the process of agrarian change in northern Sierra Leone. These are stated briefly and argued and elaborated in the main body of the thesis. The hypotheses are:

1. That IADP loan capital (credit) tends to reach households that are already 'wealthier' in human as well as material terms and well advanced in the process of transition from agriculture to merchant oriented, u rban-focused interests.

2. That in the context of the study area, it is labour rather than land that is the effective limitation to the adoption of agricultural innovations. It is argued that the ability to negotiate labour for agricultural work at the appropriate times is inherently unequal and the differences act to stratify the peasant communities observed. It will be argued that in the context of the Sierra Leone economy, it is the rural, so-called 'traditional' sector that bears the 'cost' of reproducing the urban labour force upon which the trading sector of the economy is based through migration and rural-urban remittances.

3. That the provision of IADP credit is unlikely to induce increased local investment in agriculture. The argument will be elaborated that an expansion of farm level investment is only likely to take off in the context of a redefinition of the terms of trade between the agrarian sector on the one hand and the non-agrarian sector on the other.

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1. Quoted from a circular by F J Martin, Director of Agriculture, 1938.

4. That IADP regional pattern of resource allocation is inadequate to the needs of agriculture. In particular it will be established that the relationship between the spatial pattern of resource allocation on the one hand, and need (defined in terms of population concentration and resource endowment) on the other hand is not as close as it might be. Consequently, it will be argued that the emerging spatial structures are 'inefficient' for resolving problems of 'isolation'.

In the light of the above hypotheses, this study aims to attain the following objectives:

i) To analyse the social and economic impact of rural development planning in northern Sierra Leone. Particular attention will be paid to the notion that technological change tends to reinforce socio-economic inequalities between different social classes in rural society. Thus a major concern relates to the identification of differences between socio-economic groups under the process of change. An attempt is made to explore the constraints and possibilities that are specific to the groups identified.

ii) To offer altenative lines of analysis that are argued essential for effective rural development planning in fu ture. This will be achieved via a critical scrutiny of the assumptions and analysis that appear to characterize existing rural development planning in Sierra Leone.

In order to achieve the above the thesis is split up into ten chapters. These are, in addition to the present, as follows:-

Chapter 2 - Describes the physical environment of the study area in order to outline the context in which agriculture is constructed. Presents and analyses demographic data for the project area.

Chapter 3 - Describes the concepts and investigation techniques used for this study. It also reviews the body of literature on 'peasant and peasant societies' and outlines the meaning implied by the term 'peasant' in this study.

Chapter 4 - Analyses the structure of sample households and the process of family formation in the study area. A critique of conventional analysis of migration is developed and an alternative framework outlined. It also examines the pattern of remittances from rural households. A major focus here is the analysis of the social 'construction' of agricultural labour in the study area. An attempt is made to show how access to different types of labour tends to act as a separating mechanism within the rural social formation.

Chapter 5 - This considers the rural credit process. The view is argued that agricultural crdit is not simply a technical problem but one with deep political roots. The institution of merchant capital and its relationship with social reprodction are examined in some detail.

Chapter 6 - Presents, and analyses data relating to household incomes and expenditure. A comparison of 'actual' and declared patterns of expenditure is undertaken and their agricultural development implications noted.

Chapter 7 Examines farmers' attitudes towards risks and the strategies adopted to cope with risks in farming. Differences between farmer groups are noted and 'interpreted'.

Chapter 8 - Focuses on the role of women in local agriculture. It explores issues relating to women's access to vital production resources in agriculture.

Chapter 9 - Attempts an overall analysis of the spatial impact of IADP. It examines the decision - making framework used in the regional allocation of Project resources.

Chapter 10. - Summarises the major findings and conclusions of the investigation. The implications of the results for future rural development planning are also noted.

CHAPTER 2

INTRODUCTION TO THE STUDY AREA

2:1 Physical Characteristics of the Study area

The area covered by IADP North lies between latitudes 8° 35' and 9° 20' north and longitudes 11° 45' and 12° 30' west (fig. 2:1) and comprises the ten chiefdoms depicted in Fig. 2:2.

Fig 2:3 illustrates the general pattern of relief within the project area. Well over half of the area lies below the 500' (c 152 metres) countour line. This gently undulating land is predominant in the north-west and western parts of the project area. Isolated hill masses rise abruptly over these gently rolling plains and some may rise to over 500m above sea level. The north-western section of the lowlands contains the boli lands ranging in elevation between 50 metres and 60 m. Swamp rice production is particularly important in the valleys while upland rice and groundnut cultivation are concentrated on the hill sides.

Land between 150 and 300 metres tends to be predominant in the northern, and central portions of the project area. Most of the Mabole Valley falls into this relief category and is noted as a major citrus and palm kernel production area. Perhaps the most impressive relief features here are the Katabai hills, rising to over 400m. above sea level. This elongated hill mass trends in a general north-south direction and forms a physical and human 'watershed' between Gbendembu - Gowahum and Biriwa Limba chiefdoms. The southern end of these central uplands (part of which lies in Tane chiefdom) supports significantly fewer cattle than the northern parts. Consequently vegetation in the former areas tends to be more luxuriant. It is important to have in mind the caveat that a map at this scale is incapable of bringing out the intricate drainage incisions into the plateau edge and across the plains which prove important in understanding the distribution of valley bottom land suitable for swamp rice farming.

With the exception of some bare rock summits the highest parts of the project area lie between 300 and 450 metres. Land of such altitude dominates the north-eastern and south-eastern extremities of the region (see Fig. 2:3). The greater part of this zone

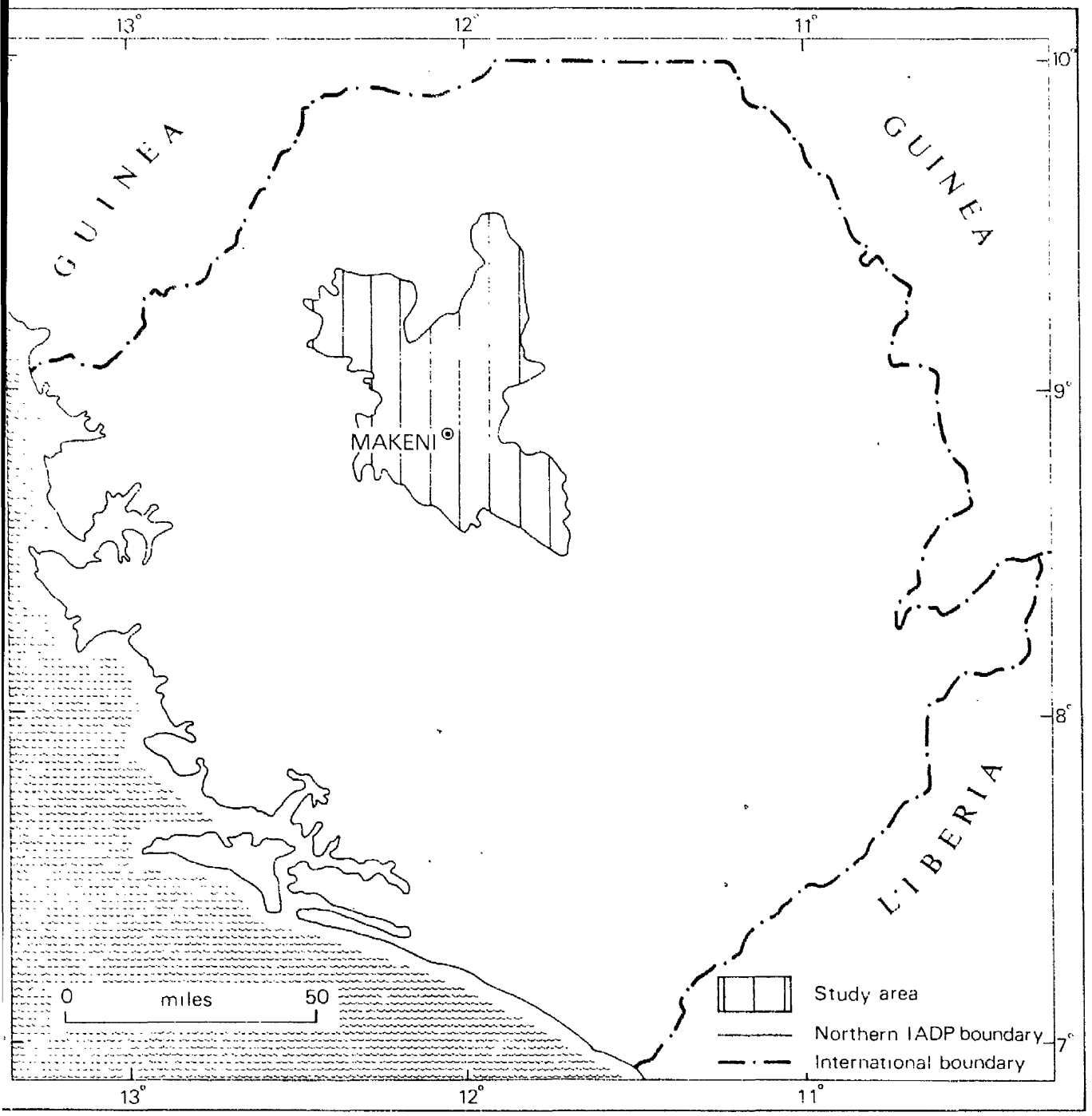

Fig 2:1 Location of study area in Sierra Leone.

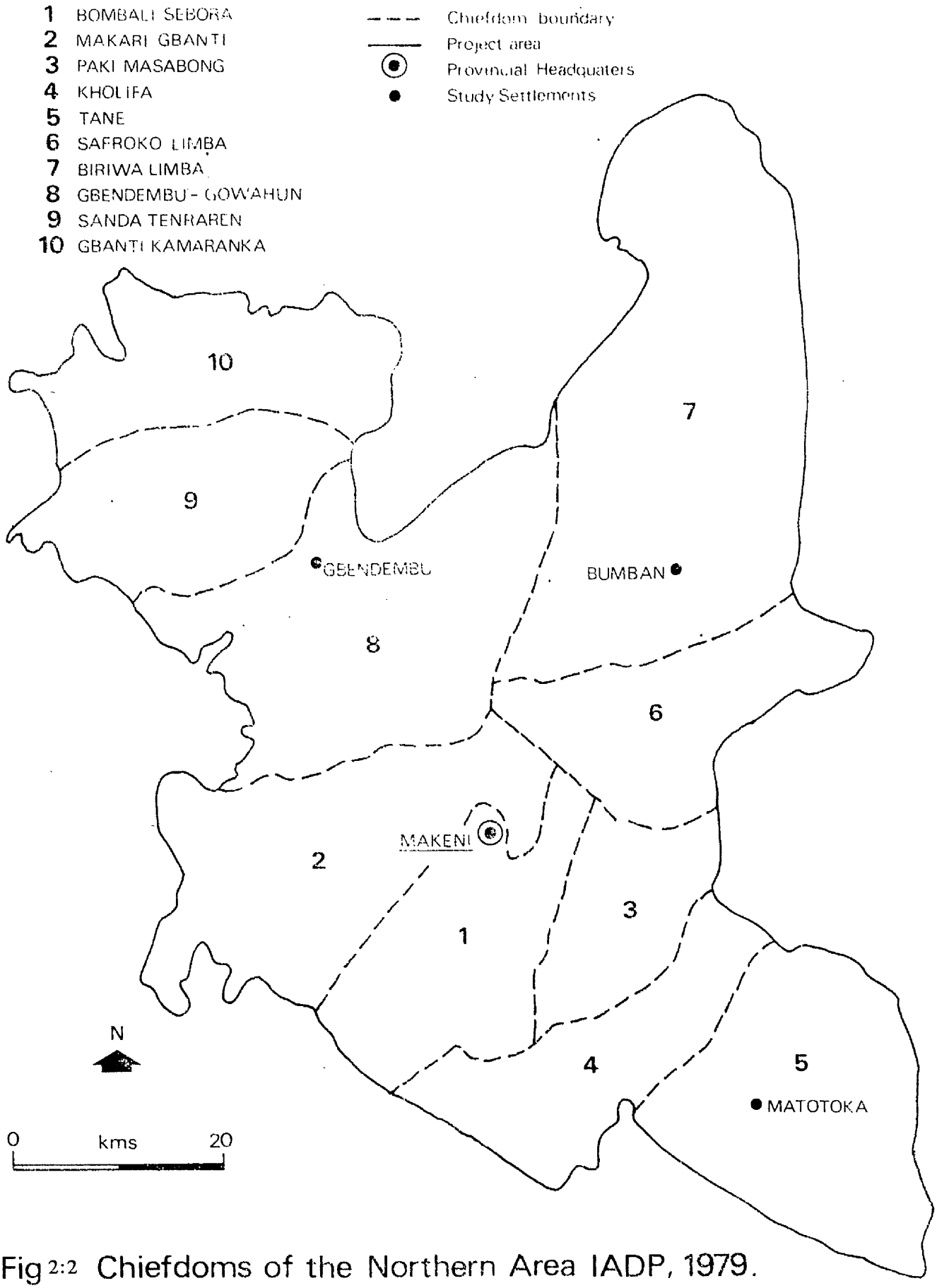

Fig 2:2 Chiefdoms of the Northern Area IADP, 1979.

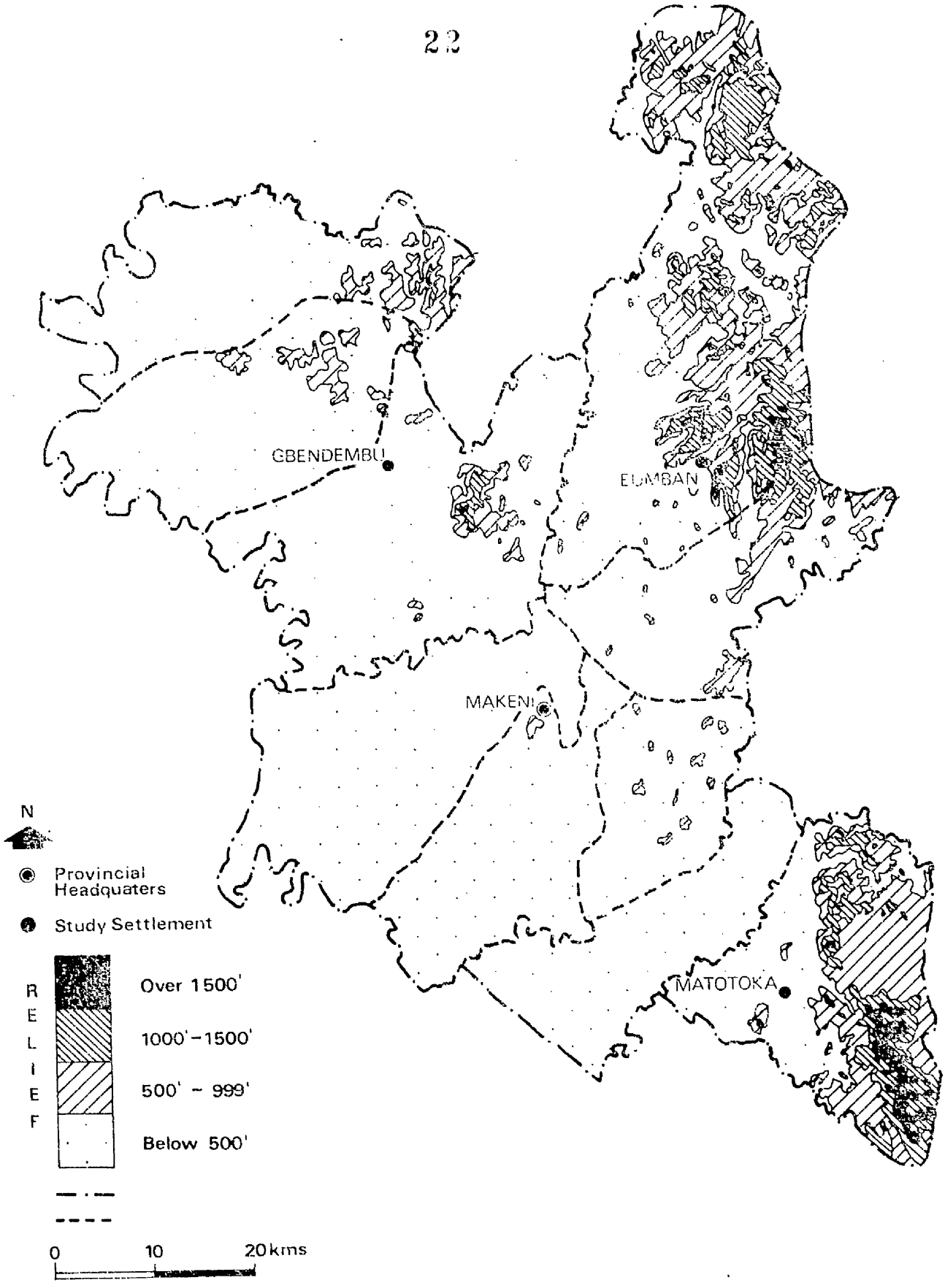

Fig 2:3 Relief map of Study Area.

corresponding to the Interior Plateaux of Sierra Leone (Clarke, 1966), is Plateau, ranging in elevation between 450 and 600 metres into which the major streams and rivers become very deeply incised as they flow westwards from the North-eastern highlands of Sierra Leone. Owing to this characteristic, valleys tend to be narrow and as a result swamps tend to be smaller in extent than comparable features elsewhere. An important feature of this region is the presence of massive rock outcrops and precipitous slopes e.g. in the Gbengbe hills above Bumban. In places these mountains rise to over 750 metres. Possibilities for upland rice production tend to be severely limited by the physical characteristics, among other factors, noted above. By contrast, the valley bottoms of these mountains afford immense possibilities for inland valley rice cultivation. In later chapters the agricultural significance of these valleys (especially around Bumban) will be demonstrated. Furtherquestions about land distribution and its importance within communities associated with the physical regions discussed here will be further elaborated in chapters 4 and 8.

Climate (especially rainfull and its distribution) constitutes another important feature of the environment in which agriculture is constructed. Because the present study is focused on an analysis of the 'human' aspects of Socio-economic change, climatic variables are only described in summary form (see Gregory (1966) for a more detailed analysis of Sierra Leone's climate).

The annual rainfall for the project area, based on a 32 year average taken at Makeni, is 3,068 mm of which 2901mm (i.e. 95%) falls from May through November and 5% from December through April (see Table 2:1). Rainfall decreases slightly to the North and North-east of the project area, with the dry season becoming correspondingly more marked.

A notable feature of the dry season here (as with the rest of Sierra Leone) is the prevalence of the harmattan, an intensely drying wind which blows periodically from the Sahara desert during January and February, generally accompanied by a noticeable drop in night time temperatures. Over much of the year, however, mean daily temperature fluctuates only minimally, ranging between 25° C in August and 28° C in March/April. Sunshine duration decreases slightly as one moves from North to South. The number of sunshine hours per day declines during the rains to an August low of around 2 to 3 hours compared to a February/March high of 7 to 8 hours. Mean day length varies little throughout the year. Thus the length of the cropping season is almost totally a function of soil moisture

Table 2:1 Rainfall regime in the study area

Station	Latitude	Longitude	No. of years	Monthly rainfall in mm												
				J	F	M	A	M	J	J	A	S	O	N	D	Total (in m
MAKENI	8 53	12 03'	32	6.9	7.9	34.8	91.2	222.8	378.5	492.8	641.4	550.4	413.5	201.4	27.4	3068.3
TEKO	8 49	12 02'	14	12.4	9.7	38.1	90.9	220.5	358.6	504.7	576.6	539.2	373.1	157.5	20.3	2903.2 2901.6
KATONGA	8 41	12 10'	8	20.3	4.6	15.0	35.6	163.6	363.0	524.0	611.6	467.4	354.8	178.6	13.5	2752.1

Source: Teko Meteorological records

conditions.

Geologically, the project area comprises the Rokel river series which underlies the boli lands, and the granite and acid gneisses which account for the greater part of the remainder of the region. According to Anderson (1966), the Rokel river series is considered to be a late Pre-Cambrian rather than an early Palaeozoic rock formation. Soils of the study area are mainly sandy with a high proprtion of lateritic gravel, and are light and free draining. They are acid to very acid (ph 4.0-6.0) with an associated low nutrient status (cf Schulze, 1966).

In land use terms, the main soil types distinguished are Uplands, Inland Valley swamps, river terraces and boli lands. The upland soils are generally deeply leached of bases and support growth by decomposition of organic matter. Under natural vegetation, nutrient levels are restored by litter feed, rain wash, and by uptake of tree roots from mineral soil at considerable depth (see Nye and Green land (1960) for a detailed analysis of soil dynamics under shifting cultivation in the tropics; also see Stobbs, 1963 for a similar analysis relating to soils in the boli land region of Sierra Leone).

Swamp soils tend to be similar to those of the adjacent uplands, but vary greatly in overall depth and depth of top soil. Top soils are mainly sandy loam or sandy clay loams tending to dark peaty loams in the wetter parts. The predominance of the latter is largely a function of the water regime of the particular swamp. Few swamps, according to land resources survey analyses, have a high clay component in the top soil, and the subsoils are likewise of coarse sandy texture.[1]

In composition the river terrace soils are claimed to have good physical characteristics and a relatively high inherent fertility. The land, however, is severely invaded by spear grass (Imperata Cylindrica) which renders cultivation difficult.

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1. Unpublished progress report of the land Resources Project of Sierra Leone, June, 1978.

The bolilands soils-which cover 40% of the project area -are characterized by strong acidity (ph 5.0 - 4.0), low clay and high sand content, and low inherent fertility.

In terms of vegetation, the project area may be divided into two distinct ecological zones: the dense farm bush of the Interior Plains which dominate the southern parts of the project area and the 'derived' Savanna of the Northern areas where the bush is much less dense and grassland associations of Andropogan and Chasmopodium are more common .

. As with the rest of Sierra Leone, the present distribution of vegetation has been greatly influenced by human activities. There is evidence to suggest that much of Sierra Leone was originally covered . by forest, which has been significantly reduced via bush fallow systems of land use. The main species of trees found in the resulting farm bush are Parkia biglobosa,Parinari Excelsa, Elaeis Guineensis, Antiaris africana, and Chloraphora regia. These species, as well as intrusions of Lophira lanceolata are also typical of the savanna area to the north whilst grasslands occur in the bolilands.

In the foregoing, a brief description of the main physical characteristics of the environment in which a gricultural decisions are made is presented. The characteristics noted have important implications for the human aspects of agricultural land use and these points will be taken up in later chapters. Attention will now be focused on the analysis of demographic patterns in the project area for the important insight this offers on the nature of constraints on local agricultural production.

2:2 Demographic Characteristics of the study area

Population census results for 1963 and 1974 provide a basis for assessing demographic trends in the area which inturn relates to the question of the appropriateness of labour-intensive agricultural innovations in the study area of the kind currently promoted by IADP. It is important however, to note that prior to the 1963 national census, Banton (1957) used survey evidence to establish the point that many of the chiefdoms in the area now covered by the IADP experienced heavy outmigration of young males. Banton's evidence suggests that severe constraints on increasing agricultural production derive from the outmigration process (cf Clarke, 1966; Blair, 1977; Moseley, 1979). This section analyses the patterns of demographic change and in particular changes in the agricultural population of the study area chidfdoms.

Table 2:2 summarizes data on changes in the total population of the ten project area chiefdoms. Examination of the table reveals that, overall, the population of the project area increased from c.178,000 to c. 215000, an increase of c. 21%. Given typical population growth rates for west African rural areas of c. 2-2.5% per annum, population growth is substantially below the expected net growth of between 30-40%. Fig 2:4 depicts the spatial pattern of th e inter-censal population change. Fig. 2:4 suggests that most of the recorded increase is accounted for by Bombali Sebora and Kholifa Chiefdoms. It is significant to note that the two major urban areas of Makeni and Magburaka are located in these chiefdoms respectively. By constrast, the contiguous chiefdoms of Safroko Limba and Paki Masabong show decline in overall population, with the former exhibiting the greater reduction.

Table 2:3 focuses on changes in the age and sex compostion of the agriculturally active population (i.e. farmers aged 15-39 years-see chapter 3 for a discussion of how field observation and dialogue contributed to the definition of this group) of the ten chiefdoms between 1963 and 1974. Comparison of tables 2:2 and 2:3 reveal remarkable variations. For example Table 2:2 shows that only two chiefdoms recorded net losses in population over the period under review. By contrast, Table 2:3 reveals that 6 out of the 10 chiefdoms analysed registered net losses in their agricultural population. Consistent with evidence in Table 2:2 is the result that most of the increase in agricultural population of the respective chiefdoms was reported for Bombali Sebora and Kholifa (each with a substantial urban component). The geographical pattern of changes

Table 2 Population change of Project area chiefdoms, 1963-1974.

Chiefdom	Total 1963 population	Total 1974 population	Population Change	
			Absolute Nos	Percent
Biriwa	24,546	25,593	1047	+4.3%
Bombali Sebora	22,078	37,943	15,865	+71.7%
Gbanti Kamaranka	13,921	15,774	1853	+13.3%
Gbendembu-Gowahun	22,141	24,346	2205	+9.9%
Kholifa	22,421	31.456	9035	+40.3%
Makari Gbanti	19,696	25,229	5533	+28.1%
Paki Masabong	11,277	10,531	- 746	-6.6%
Safroka Limba	16,612	14,451	-2,161	-13.0%
Sanda Tenraran	12,922	15,905	2983	+23.1%
Tane	12,479	13,705	1226	+ 9.8%
TOTAL	178,093	214,933	36,840	+20.7%

Source: Based on 1963 census tables and provisional figures for the 1974 census (quoted by permission of the Central statistics office, Freetown).

Table 2:3 Change in the Agricultural population of the IADP area chiefdoms, 1963-1974.

Chiefdom	1963 Agricultural Population (15-39)	1974 Agricultural population(15-39)	Percent Change.
Biriwa	9,339	7,837	-16.1%
Bombali Sebora	8,694	14,368	+65.3%
Gbanti Kamaranka	4,781	4,737	-0. 9%
Gbendembu-Gowahun	8,289	7,700	- 7.1%
Kholifa	8,577	10,948	+27.6%
Paki Masabong	4,197	3,122	-25.6%
Sanda Tenraran	4,395	4,636	+ 5.5%
Makari Gbanti	7,536	8,793	+16.7%
Safroko Limba	5,867	4,244	-27.7%
Tane	4,573	4,405	- 3.7%
TOTAL	66,248	70,790	+6.9%

Source: 1963, CSO Census report and provisional figures for the 1974 census of Sierra Leone supplied by CSO

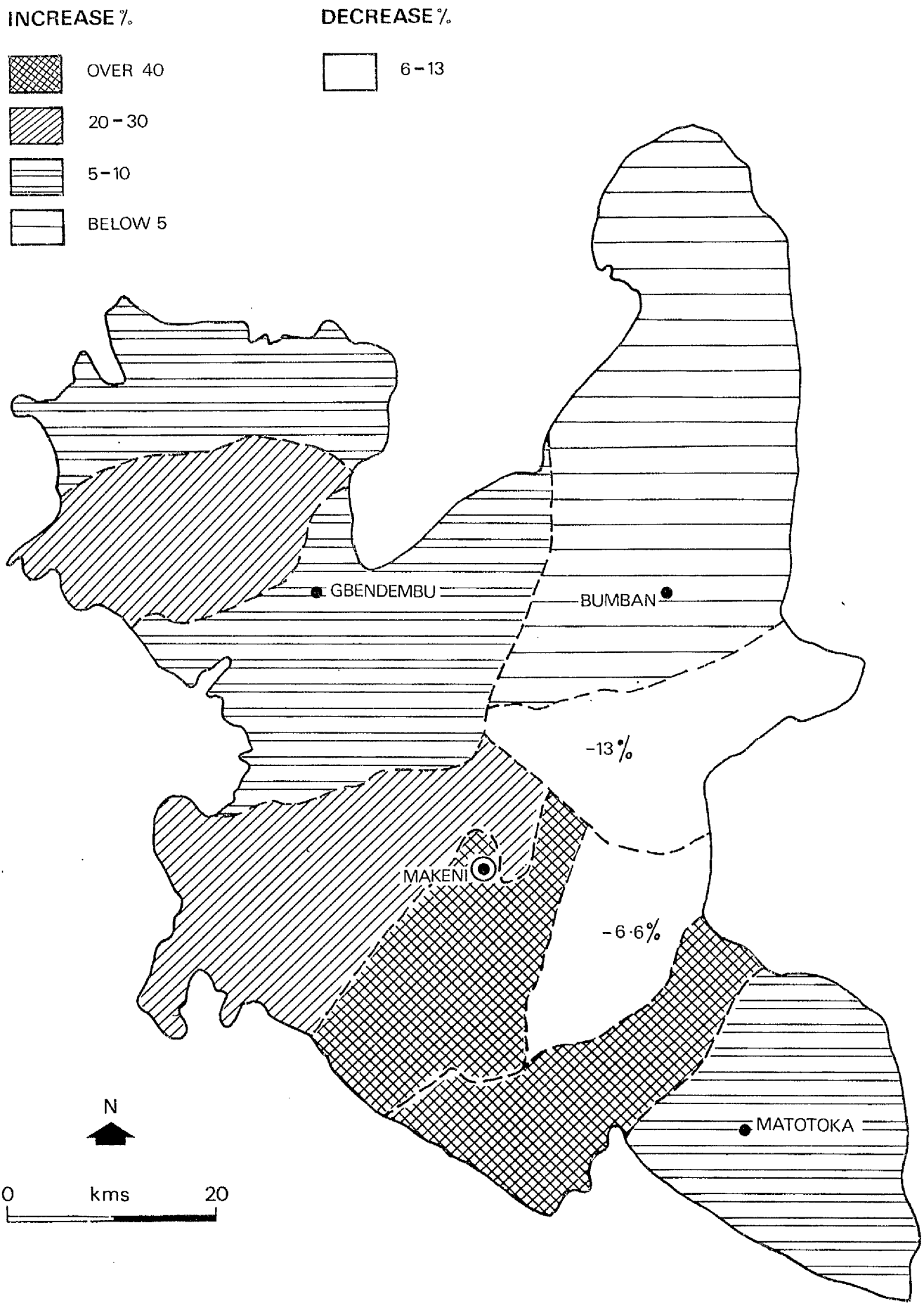

Fig 2:4 Population change in the IADP Area, 1963 -1974.

in the farming population is shown in fig. 2:5. It is significant to note that of the chiefdoms containing Bumban, Gbendembu and Matotoka, the smallest decline was reported for Tane chiefdom. The greater availability of agricultural labour for Tane chiefdom that this implies is argued in chapter 4 as one of the reasons why IADP farming practices have appeared to have a much greater impact in Tane when compared to other areas. Analysis of household demographic structures in the three survey villages establishes that Matotoka households are superior in terms of labour supply when compared to farm labour supply in the other two villages.

The evidence presented thus far appears to suggest that even though rural rates of population increase may be between 2-3% annually, most of this is absorbed by outmigration. 1974 census results show that nine out of ten chiefdoms in the study area indicate a declining trend in the proportion of the population in the 15-39 age group (see appendix 2). This suggests that outmigration continues to be selective of young people. Fig 2:6 depicts the proportion of males for each of the chiefdoms in the 15-39 age group. As argued elsewhere in this thesis, IADP innovations are significantly more labour intensive than existing agricultural practices. Thus the success of such a technology is largely dependent on the adequate supply of man power capable of undertaking critical labour-intensive tasks. It is therefore appropriate at this juncture to examine in some detail the pattern of distribution of the male agricultural labour force. Evidence presented so far and discussion with farmers suggests that male labour bottlenecks tend to be more severe than female labour supply problems (eventhough female labour may be unequally available to farmers in the study area).

Theoretically, the male/female ratio in the 15-39 age group should be in balance (assuming that age-sex specific mortality rates are roughly the same). Contrary to this expectation, the provisional 1974 census figures indicate that the actual percentage of males in this age group varies from 45% in Bombali Sebora to 34% in Safroko Limba chiefdom (see Fig. 2:6). It is suggested that the smaller percentage of males in this age group reflects the degree of outmigration of young males from the respective chiefdoms and hence the nature of labour supply problems in the study area. In terms of the distribution of the sex ratios in the critical age group labour supply problems are likely to be severe in Safroko Limba, Gbendembu Gowahun and Gbanti Kamaranka chiefdoms. Material presented in chapter 9 suggest that response to IADP swamp cultivation technology is less satisfactory here than elsewhere. By contrast chiefdoms with more balanced sex ratios in the 15-39 age group

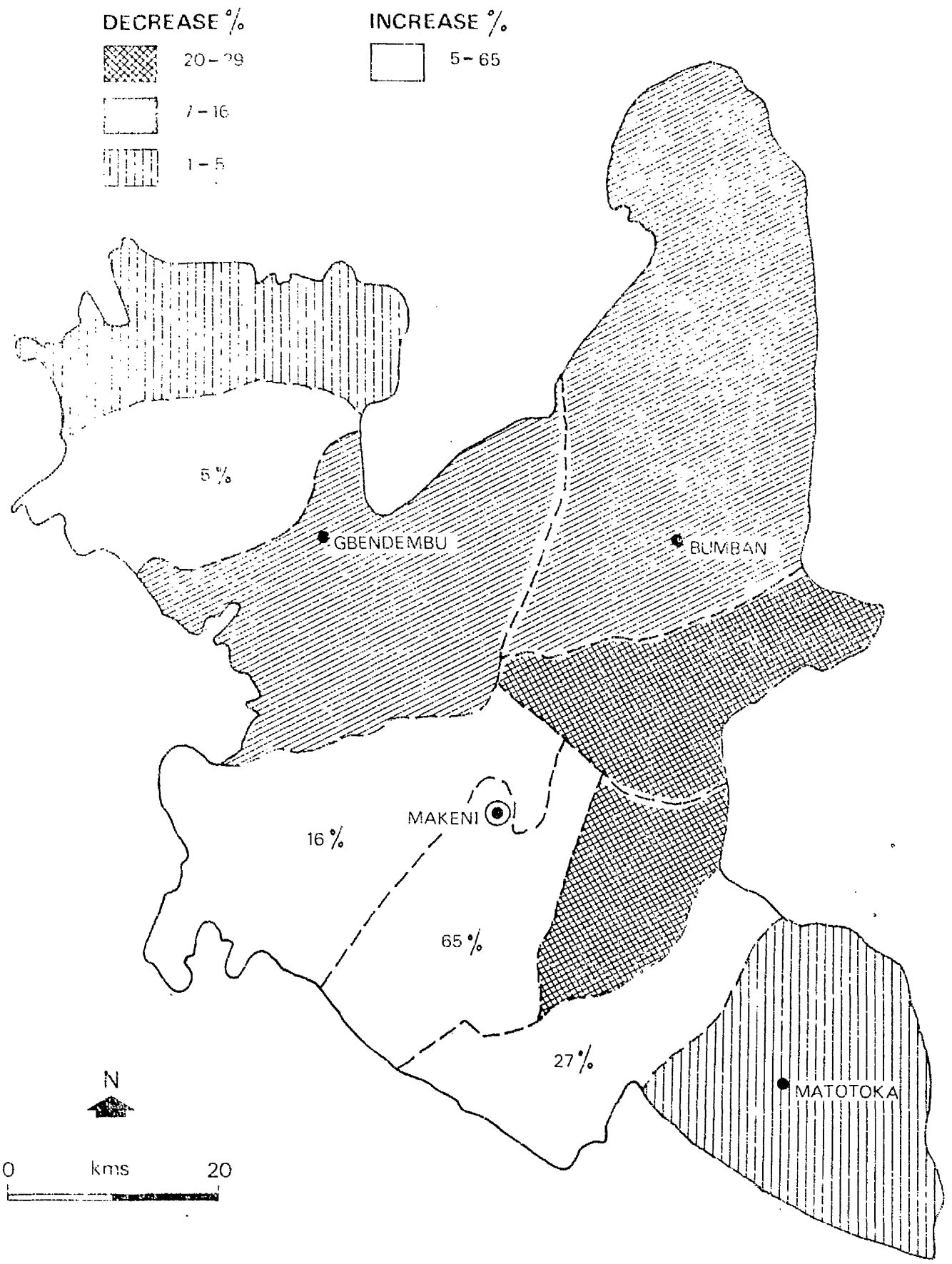

Fig 2:5 Changes of agricultural population of Project area Chiefdoms, 1963 - 1974.

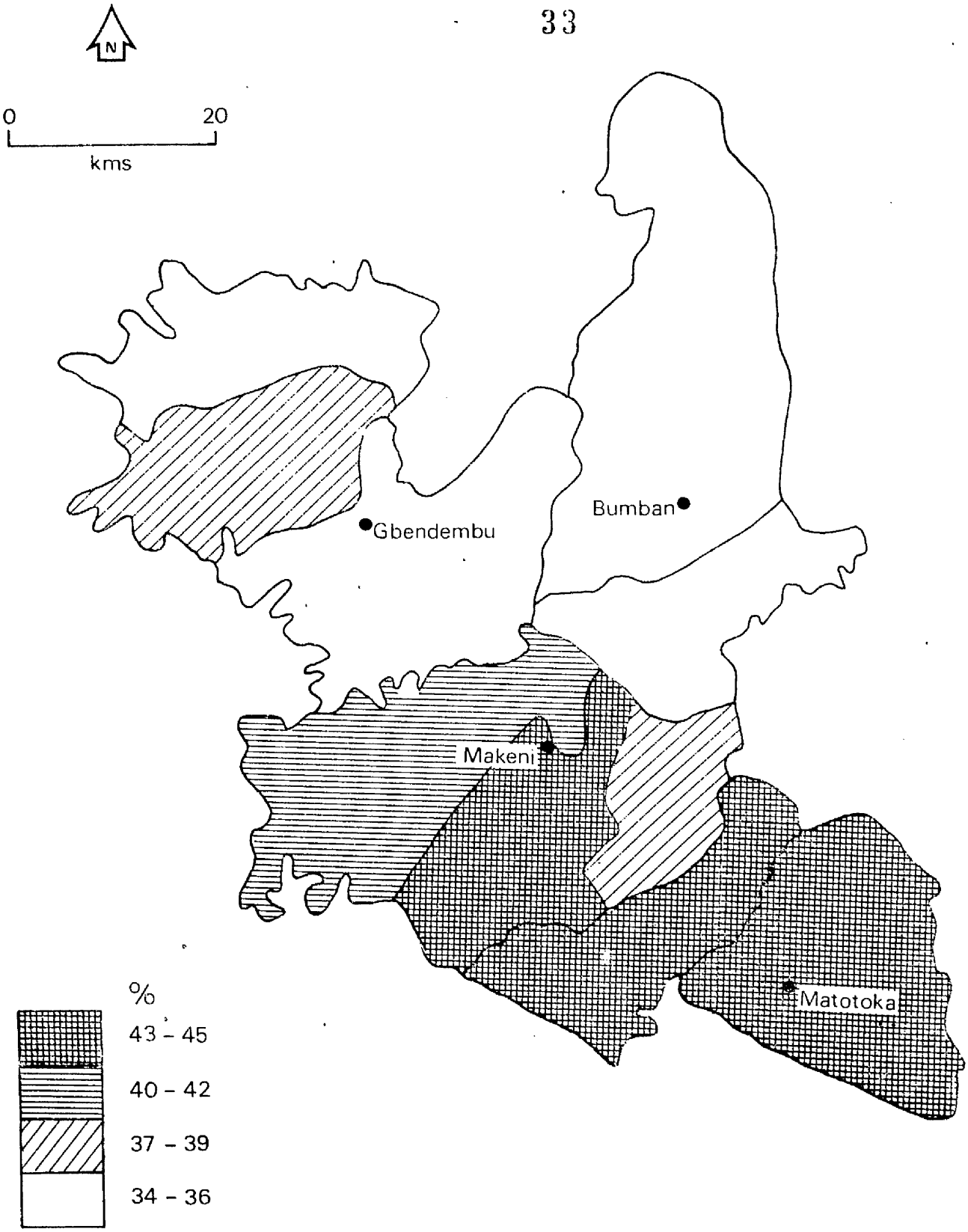

Fig 2:6 Males as a percentage of total population in the 15 - 39 age groups (1974 Census: provisional figures).

tend to show much grater response to the labour-intensive swamp rice production component of IADP (see chapter 9). Thus it is argued here and elsewhere that availability of labour is one of the major factors underlying the spatial contrast in response to project initiatives discussed in later chapters.

Banton (1957) and Finnegan (1965) among others, have suggested an 'ecological degradation' explanation for outmigration. In chapter 4 an attempt is made to propose an alternative framework for understanding the phenomenon of outmigration. The view is elaborated that outmigration is the result of decisions by 'wealthier' households to reinvest their human resources in non-agricultural pursuits via investment in education. Thus contrary to the 'ecological impoverishment' formulation, migration is argued to represent a deliberate family investment decision and not forced upon young farmers by 'land hunger' or other forms of ecological disaster. As argued elsewhere, heavy outmigration from the Mabole valley region may stem from success es associated with participation in the 19th century long distance trading networks. Large herds of cattle owned by Bumban and Gbendembu project farmers (see chapter 6) constitute concrete evidence today of the earlier prosperity of the Mabole valley, a region which formed part of an important wealth-generating trade route from Guinea to Port Loko via Falaba, and Bumban (see Karimu and Richards, 1980: cf Fyle, 1979; Howard, 1979).

The evidence, overall, suggest s that despite a general , if small expansion in the project area's total population, it is most unlikely that the minimal pool of persons available for potential hire as farm labourers has increased to any significant extent in the last decade. Comparison of the two sets of census results suggests that agricultural labour supply difficulties may have intensified for most of the more rural areas covered by IADP activities. Further analysis of labour supply problems stemming from the outmigration of young males and the associated social organisation of farm labour provides the primary focus of chapter 4 of this thesis. Meanwhile attention is focused on a description of the research methodology used for this study, together with an outline of the central concepts underlying analyses in subsequent chapters.

CHAPTER 3

CONCEPTS AND RESEARCH METHODOLOGY

3:1 Introduction

This chapter discusses two interrelated issues, namely, definition of concepts and techniques of field data collection. The principal objective is to provide a basis for evaluating material presented in this thesis and to help put the present study in the context of the of the main lines of existing conceptual debates. The debate concerning the definition of 'peasant' societies will be reviewed and the position adopted in this study outlined. It will be argued that peasant is a useful term as a reference to a set of social relationships and not a state. Further that the relationships which bind small producers to each other and to the state may adopt one of two modes which in a sense corresponds to the two dominant positions in the literature.

3:2 Basic Concepts

The concepts of 'household', 'peasant farmer', 'farm', and 'labour cooperatives' are critical both for this study and for a more general understanding of the determinants of change in the local farming system of the study area. The principal unit of observation and measurement in this study is the 'farm household'. In much social science writing there appears to be considerable ambiguity over the definition of the term 'household' and consequently cross-cultural enquiries as well as research done at different time periods have proven to be of less comparative value than might be hoped for. In Sierra Leone, for instance, official definitions of household have tended to differ from definitions adopted by independent academic researchers. Thus the Central statistics office defines a household as a 'cooking pot unit' i.e. all those who are directly involved in the preparation and eating of meals or in providing other living essentials for the group (c.f. Household Survey of Sierra Leone, 1969). Such a definition is unsatisfactory especially in the African context where polygamy is a common place. Given the tendency of polygamous groups to split up into several 'cooking

pot units' such as the Sinkiro of Madinka Villages in the Gambia (Philips, 1980)[1] or the gundé pele of Loko communities in Sierra Leone, all under the direct authority of a single head, such a definition could cause these units to be treated as self-contained households. An obvious problem therefore is that such groups may eat separately but work together or as pointed out by Johnny (1979) such groups may even work separately but store food resources in a common barn. In spite of this kind of complication the 'eating from the same pot' definition has been adopted by the Central Statistical Office as a self-evidently meaningful unit for data collection and analysis. In fact enumeration is generally such that only those present in such units at the time of any particular survey and thought to be directly involved in preparing and eating meals together will be represented in official statistics stemming from this conception of household.

Academic researchers on the other hand have tended to use either the 'house keeping unit' approach or the 'household - housing unit' definition at different places and times (Mills, 1975 : 140) and consequently results have differed considerably depending on which definition is followed. For example use of the Central Statistics Office definition resulted in a mean household size of c.12 persons in Matotoka whereas the approach based on household-housing unit (i.e. dwelling units) yielded a mean size of c.15 persons for the same settlement in 1975 (Mills, 1975).

Discussion with farmers in the sample villages for this study established, inter alia, that the notion of a 'household' is both complex and dynamic (in the sense that individuals tend to differ in their interpretation of terms,and in any case there is a genuine fluidity of arrangement as a result of social change). No definition is likely to be entirely satisfactory in an all-purpose way. Each definition adopted ought to be formulated so as to enhance understanding of the problem being addressed, with a full explanation of how it reflects the interests of, and the meanings attached to it by the group using it.. In this study particular emphasis is placed on resources available to farmers in the study area and how this affects decisions about innovation adoption or non-adoption. The farmers who initially have been the target of the project described in this thesis tend to emphasise issues such as residential unity, corporate provision of the

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1. - D. Philips has just completed a study of nutrition and agricultural systems in Madinka communities in the Gambia. He observes that 'the number of wives per Sinkiro is just greater than one. This indicates that each wife now has her own kitchen'. See Philips, D. - Prospects for increasing rice production in Three Madinka Villages. Dec. 1980.

essentials of life such as food, pooling of productive resouces, issues relating to group storage of grains and above all recognition of a single head as key elements in their own definition of household. Consequently, 'household' in this study is looked at from this point of view as a group of people, under the direct authority of a recognized head, who contribute labour on a jointly operated farm and who make corporate contributions during customary activities. Thus a household so viewed essentially comprises a male head, his wives, children and others resident within the unit. Given the importance of the phenomenon of out migration and the widespread adoption of school-based education, emphasis was placed on the regularity of stay within the household in our measurement efforts. Thus the definition would include all family members resident at home with the household head, but excludes those who live and work elsewhere and only pay occasional visits. Such a definition, in my view, makes it possible to assess the labour capacity of different households than is affordable by definitions which emphasise members present at the time of the survey. It is important to note that one of the research findings on this issue of household definition is that the latter concept of family is under challenge by wives and children who express a strong disire for some measure of economic indep-endence.

The term 'farm' in this study denotes any piece of cleared land cultivated with crops either for subsistence purposes or for sale or both. Intercropping is a vital feature of local agricultural system in the study area. Hence the definition of a farm does not necessarily imply monoculture. Thus farm is used in general to refer to cultivated plots that are either owned jointly by a household or operated and managed by individual members of households. In this sense women's private groundnut plots, cultivated in addition to their household responsibilities and obligations, are treated as farms just as much as the family upland rice farm.

Co-operation among farmers for the purpose of maximising the use of time in labour-intensive and time-constrained farming operations constitutes a vital mechanism for mobilizing agricultural labour in the study villages, Labour groups, however, also mobilize for the purpose of hiring out their services to any farmer who is willing to meet with their hiring terms. Thus labour groups can be defined as any association of people organized to perform a task or achieve a given set of socio-economic objectives such as raising funds for the benefit of members of the group. The size of such group varies from as small as 5 to as large as 35 or more and considerable inter-village

variation is possible. Labour groups are generally know as Kompin (i.e. companies), a Krio word meaning an association. Kabɔthɔand Kune are the Temne and Limba equivalents of 'company' respectively. These groups are organized under recognised leaders and embrace a range of other roles/offices, with activities being regulated by articles of association governing the behaviour and obligations of members both to the Kompin and to their clients. The activities of labour 'companies' are designed to solve labour supply problems on the farms of the individual members for whom the work is carried out or to benefit the group members through fund raising activities of a 'rotating credit' kind. It is to be emphasised here that labour groups of the type defined are recruited and mobilized according to principles other than kinship, residence or marriage. It is thus conceivable for a labour 'company'in this sense to comprise people from different kin groups or indeed living in different localities.

In the foregoing, we have briefly examined some of the issues relating to concepts which provided the basis of our field measurements in this study. The position adopted with regards to the controversial notion of household is one which emphaises local understanding and explanation of the concept and designed to take the phenomenon of out migration into account.

3:3 The debate concerning the nature of the Peasantry

The notion of 'peasant farmer' is central to the present study. Consequently some of the key issues in peasant studies will be reviewed along with an outline of the meaning the term is intended to convey in later chapters.

In the light of the growing number of studies using the term 'peasant' it is surprising to discover the extent to which academics have failed to arrive at a consensus on the use of the category 'peasantry' as a valid analytical concept. Some writers even argue that any attempt at defining 'peasant' is counter productive on the grounds that, as Klein (1980) claims, 'it blinds us to processes of change and imparts a static picture' (c.f. Chauveau, 1980). The approach adopted in this study is that attempts to characterize peasant society are an important element in the process of developing an adequate understanding of social change in African rural societies.

There are, broadly speaking, two major schools of thought in the literature on the nature of the peasantry. Both will be briefly examined in turn.

The first school embraces those writers who argue for the existence of a distinctive form of peasant economy - a peasant mode of production - in African societies of today and in European societies in the past, which exists on its own terms rather than as a consequence of capitalism, feudalism or articulation with any other mode of production. Alexander V. Chayanov, a Russian agricultural economist was a leading proponent of this perspective during the second and third decades of this century. Basing his arguments on the analysis of late 19th century and early 20th century Russian farm management data, Chayanov attempted to construct a model of the peasant farm houshold. Particular empahsis was laid on the notion of subsistence needs of the household unit and how these were met from within household resources. The social structure of peasant societies, according to this formulation, can be understood only by reference to the way in which the farm-family operates. Some adherents of this paradigm would seem to imply that the peasantry constitute a homogeneous society (Hunt, 1978; Chauveau, 1980). Given the emphasis on auto-subsistence in this approach, the question of wealth differentiation among the peasantry receives scant attention and is usually explained as a consequence of cyclical processes of family growth and decline (with age) rather than as a long-term cumulative tendency towards polarization of social classes. This theory of the specificity of a peasant 'mode of production' has been widely accepted as the basic justification for treating 'peasantry' as an adequate and meaningful category (Kroeber, 1948; Redfield, 1955; Wolf, 1966; Dean, 1966; Shanin, 1971; Kerblay, 1971; Hunt, 1978).

Kroeber's (1948) formulation of a concept of peasant society illustrates the general approach. Accordingly, peasants are defined thus:

> Peasants are definitely rural . . . . yet live in relation to market towns; they form a class segment of a larger population which usually contains also urban centres, sometimes metropolitan capitals. They constitute part - societies with part - cultures. They lack the isolation, the political economy, and the self-sufficiency of tribal populations; but their local units retain much of this old identity, integration, and attachment to soil and cults (my emphasis)

Saul (1974) and Hunt (1978), among others, have emphasised the usefulness of the Chayanov model in understanding African rural change. For example, in a study of household resource allocation and distribution by Mbere farmers in Kenya, Hunt (1978)

concluded that:

> the (Chayanov) model does have fundamental insights to offer . . . . It provides a useful base from which we can construct a more complex and realistic model.

Notwithstanding these observations, the Chayanov model, and the analyses of African societies based on it, does present considerable analytical problems.

The principal drawback of this approach, in my view, lies in the implicit assumption that peasant social formations are characterized by isolation and homogeneity. Both of these assumptions are open to question for historical and modern communties in Africa are known to have conducted extensive trade with the world 'outside' their immediate environments both during the colonial period and for a long time previously (c.f. Hopkins, 1973; Rodney, 1976; Abraham, 1976; Fyle, 1979). Thus for example it is difficult to treat (as some have done) the Yoruba of Western Nigeria as a typically introverted peasantry. These traders have operated on an international scale for centuries. Nor can cocoa farming in the colonial period in this part of Nigeria be explained by reference to internal social and economic structure of village communities for as Clarke (1980) shows the critical factor from the onset has been the relationship between the colonial state on the one hand, and local Yoruba communities on the other. Yoruba peasant society is created not by internal factors but by external forces relating to production of cocoa for a world market and the consequent appropriation of surplus by the state. The rise of private ownership in land and the growth of tenancy arrangements, Clarke argues, followed on from these wider forces which in turn set in motion a process of accumulation and wealth differentiation among Yoruba farmers. The notion of a stable peasant society reproduced through 'the developmental cycle in domestic groups' (Goody, 1958) is considerably undermined by considerations such as these.

A further problem with the Chayanov model is its inadequate conceptualization of 'peasant houshold'. By working his analysis in terms of 'family' labour Chayanov offers very limited insights into the typical social organization of labour in the production process in those African communities where the existence of extra-familial but non-monetary labour mobilization is a crucial consideration. Non-family based labour cooperatives, as described above (see section 3 : 2), are vital to the

farming systems described in this thesis and provide opportunities for well-placed individuals to extract surplus via customary organizational strategies. If, as Richards and Sharpe (1981) argue, real labour exploitation takes place through so-called cooperative work groups and a stress on 'family' values often serves to disguise this process then the Chayanov model (which assumes all family transactions to be non-monetary fails to consider non-family land and labour transactions unless these are 'monetized' - i.e. capitalist) falls foul of deliberate peasant ideological manipulation designed precisely to disguise the true nature of local processes of exploitation.

The other major school of thought in relation to the peasantry is that initially developed by Lenin, namely, the so-called 'differentiation of the peasantry perspective'. Lenin's (1899) analysis of the development of capitalism in Russia appears to have provided the basic inspiration for writers in this tradition. For Lenin peasant differentiation was:

a) a fact,
b) 'the sum total of all economic contradictions among the peasantry'. These contradictions stemmed from commodity production and the associated initiation of capitalist relations of production in 19th century Russia. Accordingly, Lenin identified three categories of peasants as follows:

   (i) The poor peasants who constitute the bulk of the population and 'who cannot cover their needs with income from farming' and therefore forced to sell their labour power to richer peasants;
   (ii) the middle peasants, constituting about 40% of peasant households, and who manage to break even in terms of farm-derived income;
   (iii) and the top 20% of the peasantry or the well-to-do class. These are characterized by the possession of large farms, and in particular the production of market crops based on the hiring of farm labourers from among the poor peasants.

Recent Africanist scholars writing from a radical perspective tend to accept the Leninist approach as valid for the analysis of African agrarian society (Cliffe, 1976; Amin, 1977; Williams, 1976; Saul, 1977; Klein, 1980; Pearse, 1980). In general, they seek to account for, in Chauveau's phrase, the 'structural articulation between the peasant formation and the larger society, characterized by a relationship of

of dominance' and exploitation induced and sustained by the diffusion of the exchange economy. The major conflict, according to the Leninist thesis, is that between the centre, represented by national and international state systems, and the periphery which is formed by the peasantry. In short the peasantry is a peripheral social formation created by Capitalism. It cannot exist by itself (i.e. there is no self-sustaining peasant mode of production). The peasantry cannot reproduce itself because differentiation is in the process of destroying peasant society.

Not all Africanists have retained so clear sighted a grasp on the centrality of the notion of differentiation as did Lenin, however. Some have seized on the notion of the peasantry as a peripheral social formation and then proceeded to write about peasants as if they were all in the same boat. Thus explaining the stagnation of the periphery, Amin (1977) argues that:

> the nature of the peripheral social systems in fact allows the centre to appropriate to itself, through the breakdown of exchange terms, productivity gains made in agriculture on the periphery.

as if 'differentiation' was entirely a regional, geographical notion and not a class phenomenon.

The notion of a 'class' struggle implicit in these writings, such as it is, would appear to totally disregard the internal complexities of the social formations concerned. Contrary to Klein's (1980) warning that 'peasants are not in fact an undifferentiated and egalitarian mass', many of these writers end up in the Chayanovian position of tending to treat the peasantry as a homogeneous category, and as a result cannot adequately focus on contradictions within these social formations. But as suggested above (and as will be demonstrated in detail later), in many African communities access to labour, especially the capacity to negotiate and mobilize a large disciplined labour force at critical times in the farming calendar, tends to be inherently skewed in favour of the rural elite. It is therefore not uncommon for relations of production between households as well as within households to be characterized by the appropriation of surplus generated by one set of producers by organizers of production such as chiefs and other wealthy members of society (c.f. Richards & Sharpe, 1981). Karimu and Richards (1980) have shown for northern Sierra Leone that women farmers, in terms

of access to land and labour resources, probably constitute the closest approximation to a 'landless peasantry' in communities that are otherwise not short of land (c.f. Johnny, 1979). The critical question for the Leninists then becomes whether differentiation is the result of the development of capitalist relations of production or whether it was embedded within pre-capitalist social formations, and if the latter, what the contradictions of growing inequality were leading to.

There is little opportunity here to pursue these questions in any greater detail. The key point to note however is that an author may use the same term 'peasant' but mean three different things according to whether the Chayanov, Leninist or 'dependency theory' (as in Amin above) position is espoused. The use of the term 'peasant' in this thesis is not intended to convey support for the Chayanov 'peasant mode of production' position. In particular the myth of the amorphous peasantry, either as a self-sufficient or a 'Peripheral' social formation is emphatically rejected. The intention here is to follow, for example, Post (1972) who finds the term useful as a basis for talking about capitalist penetration of West African societies, and the way in which rural producers become distanced from the mechanism which assigns value to the products of their labour.

Nevertheless we might ask why use 'peasant' at all? Some writers have in fact rejected the term and instead have placed emphasis on the use made by agricultural producers of available investment capital (c.f. Hill, 1963, 1970). Thus Polly Hill (1970) prefers to characterize wealthy farmers in West Africa as 'rural capitalists' rather than as 'peasants'. It is difficult to see what this gains, however, since clearly 'rural capitalists' can be equated to Lenin's rich peasants and their continued success is only likely to hasten the contradictions consequent upon commodity production about which Lenin wrote. Hill (1970) wriggles around with a 'capitalist' version of Chayanov claiming that it is in the nature of West African businesses to die with their owner but proving that wealth is not thereby accumulated from generation to generation is more difficult than she supposes once it is admitted that not all wealth is material but may be carved sometimes in, say, social and political rank or status or as is often the case 'stored' via customary channels such as the acquisition of more wives.

The position adopted in this study is a) that peasant is a useful term but b) it refers to a set of social relationships not a state c) that the relationships which bind small producers to each other and to the state may adopt one of <u>two</u> modes which in a sense approximate the Chayanov and Lenin position according to whether the economic climate is propitious or not. It is argued here that both 'modes' of

peasant social relations of production can co-exist in different parts of the same society at the same time. The dominance of either the 'subsistence ethic' or Lenin's 'differentiation process' is a function of the impact of macro level political and economic processes on peasant societies. These wider processes tend to follow a cyclical pattern in occurrence and hence to this extent the dominance of one or other mode will tend to follow a cyclical path as well. Hopkins (1973), for example, describes how periods of depression and trading buoyancy affected the production as well as survival strategies of West African farmers. The imposition of the colonial state in West Africa itself represented a new situation which created new types of pressure. Thus for the first time taxation was imposed on farmers and made payable in money. The critical issue was that the imposed taxes were insensitive to the specific year to year circumstances of the producers. In this sort of situation, a general depression, implying a decline in the exchange value of rural products, would be likely to force the local populations to focus on 'traditional' strategies for ensuring survival. It is therefore conceivable for a social ideology to emerge in a depression that would give pride of place to the inherent advantages of the subsistence household and 'family' values as in the Chayanov model. Such an ideology might create what Scott (1976) has termed the 'subsistence ethic', which is explained to be:

> . . . . a consequence of living so close to the margin. A bad loop would mean not only short rations; the price of eating might be the humiliation of an onerous dependence on the sale of some land or livestock which reduced the odds of achieving an adequate subsistence the following year. The peasant family's problem, put starkly, was to produce enough rice to feed the household, buy a few necessities such as salt and cloth, and meet the irreducible claims of outsiders. (my emphasis) Scott, 1976 : 2

Thus under conditions of general retreat social reproduction would become crucially dependent on the ability of individual households to ensure corporate existence.

By contrast, a more propitious economic climate is likely to generate attitudes which emphasise individual existence since reproduction is not in this instance critically dependent on pooling resources. Thus Clarke's (1980) description of the rise of private property in land for cocoa production in Yoruba land and the evolution of tenant systems were both linked to a general rise in the price of cocoa during the post World War II period. Clarke's summary of the process of individualization

under the buoyant phase in a trade cycle is instructive:

> . . . . the emergence of a specific form of private property in land is related to the conjunction of the development of cocoa production and specific legal and political conditions. The development of a specific kind of market in land rights . . . . is analysed in relation to the characteristics of the development of cocoa production and to conditions in which cocoa production expanded after World War II (my emphasis)

This study, among others, shows quite clearly that the evolution of social ideas and the overall outlook of groups within society are closely related to processes that are external to the particular society concerned but forming part of the wider context in which that society operates. In this regard the formulations of both the Chayanovian and Leninist schools of thought are clearly inadequate for comprehending how historical processes, local law and politics, clientship, and the general level of welfare tend to affect the interpretation of rural life which social scientists observe.

Finally, therefore, against this background an attempt is made at definition. Accordingly, a 'peasant' is viewed here as a producer whose output is partly intended for subsistence consumption and partly for the market. A combination of the use of houshold labour, the hiring of extra-household labour and /or participation in labour sharing organizations is considered consistent with peasant status. Peasants have a degree of autonomy over their means of production but they are viewed to lack control over the valuation of that part of their produce which is absorbed by the capitalist mode of production. Differentiation along socio-economic lines and inequalities in access to production resources are prominent features of peasant societies but differentiation as a process operates with varying intensity,according to historical circumstances. It may even temporarily be thrown into reverse gear by the periodic derangement of capitalist relations of production stemming from externally induced crises (contemporary Ghana may well be a case in point). The process of establishing relations of dominance and exploitation is not the rapid, linear, process many Marxists have assumed. Hence the value in sticking to the term 'peasant' as opposed to petty-capitalist-smallholder or other circumlocutions implying an irreversible process of agricultural change in some progressive direction.

3:4 Study area selection

The three settlements in which interviews were carried out were selected to reflect distinct aspects of the human geography of the study area as well as differences in the degree of response to the activities of IADP (fig 2:3). The present study is a component in a wider survey of the Small farmers understanding of the process of agricultural development in Sierra Leone. The other studies in this survey are located in the Southern and Eastern provinces and so it was thought appropriate to provide comparative data on the situation in Northern Sierra Leonean villages.

The results presented in this thesis are the outcome of intensive participant observation and structured, questionnaire-based, fieldwork in the three localities shown in Fig. 2:2 as well as broad regional reconnaisance in some 'remote' settlements around the main study villages. Of the three main study villages, Matotoka appears typical of the south-eastern part of the project area where rice production may be combined with some tree crop cultivation (especially coffee). Matotoka is located on the Freetown - Kono Highway (see map on communication pattern) which provides 'quicker, easier and cheaper transport -- and greater accessibility to markets' (Blair, 1978). Initial agricultural extension effort by the IADP was concentrated in Tane chiefdom, of which Matotoka is its headquarters. Local response to the project technology has been judged to be satisfactory. Loan repayment records for Tane farmers, for example, are among the best anywhere in the project area.

Bumban and Gbendembu are apparently more typical of the less accessible northern and western parts of the project area respectively. Of the two, Bumban is the less accessible, located within a steep-walled valley of the Gbengbe hills (Fig.2:3). The topography of the Bumban area offers substantial incentive for intensive cultivation of inland valley swamps. It is in fact possible that the intensive cultivation of these swamps predates the earliest penetration of colonial agents (c.f. Fyle, 1979 : 22)[1]. By contrast,

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1 - There is some historical evidence to suggest that Bumban swamps were double cropped at the time of the flourishing long distance trade in the Upper Guinea region. Governor Cardew remarks that continuous cultivation is an 'exceptional' feature of Bumban agriculture in 1895 whereas Festing in 1887 described the Bumban swamps as being 'much under cultivation' in the month of March.

Gbendembu terrain is relatively flat and includes some boli land swamp. Citrus crop cultivation and oil palm production extensively developed in the adjacent Mabole valley. Unlike Matotoka, however, livestock ownership (especially cattle) constitutes a significant source and store of wealth in both Bumban and Gbendembu. Considerable project efforts and resources have been deployed in Gbendembu, and the Project Management Unit (PMU) judges the response here to be poor. Loan recovery rates are among the lowest in the project area. Though less problematical from the standpoint of loan recovery, the response to project initiatives in Bumban is classed as only moderate by the PMU. Given these contrasting environmental potentials and possibilities, a main focus of the thesis is to analyse the underlying reasons for spatial variations in response to the rural development package.

3:5 Sampling procedure

The initial aim was to study 20 Project and 20 Non Project farmers randomly selected from each of the villages. From these sampled households a sub-sample of women farmers was drawn to assess the contribution of women to agricultural production, and in particular to gain an insight into the position of women in terms of access to strategic production resources such as land and labour within the peasant household. Operational difficulties, for example, sample members temporarily moving to other areas of the country, illness, meant that the original 'cells' were not quite filled by the time the survey ended.

Prior to the sampling, a group discussion was held in each of the villages at which effort was made to establish rapport. Members of the research team were introduced and the objective of trying to understand the process of agricultural change from the viewpoint of the community was outlined. The need for understanding the constraints and possibilities as well as the decision-making climate of peasant farming for the purpose of effective planning was underlined at such meetings. These group discussions also provided opportunities for raising issues relating to some of the basic concepts discussed earlier in this chapter. Particular attention was paid to the notion of 'ethno scientific' explanations and so-called emic perspectives were elicited in order to develop a critical understanding of terms such as 'household' and 'labour companies'. Local units of measurement and general farming problems were also discussed.

As far as was practicable a comprehensive list of all farming households in each village was compiled through a house to house census. A second round of meetings was held after the compilation of such lists and efforts made to check the definition of household adopted against the census result and to confirm IADP listings of participants. It was then suggested to assembled farmers that random numbers be used to generate a sample for the study from the final frame compiled. The farmers were critical of the notion of using random numbers to select a sample and insisted on the use of an alternative method which was more meaningful to them and equally unbiased. Names of all household heads were then written on papers and mixed together in suitable 'bags' for Project and Non Project households. In Bumban farmers decided to appoint a child (aged between 8 and 10 years) to 'draw' the names. This was found acceptable to the other two communities as well. In this way the main sample of 20 Project and 20 Non Project farmers in each settlement was established.[1] This is obviously a time-consuming exercise but it was found to be a practical way of resolving accusations about a researcher being biased (from the standpoint of the village) in the choice of sample members. This helps establish rapport with poorer farmers who might otherwise fear that the researcher is 'in the pocket' of richer farmers or otherwise is biased towards a particular faction in the community.

Conventional random sampling procedures were used to generate the sub-sample of women farmers from within the houeholds initially selected. Since only few women were found to be registered with the project in our sample households (only3) it was inappropriate to stratify on this basis. In retrospect, a quota sample of women farmers might have worked.

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1 - It was important for farmers to accept that the study was based on a valid random sample. One of the objectives of the larger agrarian change study referred to earlier relates to providing feedback to local communities on the nature of rural change. Acceptance of such feedback and subsequent action to remedy undesirable side effects of change will be critically dependent on the validity of the study from local standpoint.

3:6 Introduction to data collection techniques

The different techniques employed to collect information will be described in this section. It is, however, emphasised that effort was made to adopt a multi-method approach in order to minimize data inconsistency and also in response to Barker's (1978 : 1) warning that:

> The data collection process is part of a social contract between a researcher and local people, and the onus is on the former to ensure his techniques are appropriate to the cultural context in which they are to be used, and are tailored to the abilities and requirements of the community in which he works.

In his study of the Mbozi Agricultural System, Knight (1974) used a similar multi-method technique and noted its usefulness and drawbacks. He observed that the study was based on 'numerous interviews with individuals and small groups conducted through happenstance, purposeful selection, and formal sampling for specific data generation'. Similar approaches were used at several stages in the present study.

3:7 Dialogue and questionnaire approaches

The use of 'dialogical' methodology for purposes of establishing rapport and confidence between the community and the research team has already been outlined in relation to sampling. A multi-method approach, with informal interviews and participation in farm activities preceding the use of formal questionnaire helps introduce a similar 'dialogical' element. Thus questionnaires were developed in the course of fieldwork to facilitate and systematize the collection of factual as well as attitudinal data observed or discussed during earlier stages of the work. Broadly, the questions included and covered issues relating to the composition and size of sample households, occupational characteristics of household members, farm labour supply, opinions concerning the choice of different crop varieties, various 'estimates' of labour input, income and expenditures and 'recalls' relating to dates of innovation adoption. Open ended questions were used as a way of approaching 'sensitive' issues such as rural indebtedness and the village credit process.

Farmers were interviewed on six to ten separate occasions. This allowed for the clarification of previous answers and 'spot checks' for internal consistency. Interview times were kept to a short time i.e. between 30-45 minutes each. This was designed to minimize boredom for farmers as well as survey assistants.. Care was taken to eliminate redundant questions as the survey progressed, for example, questions relating to sources o f drinking water when after a few interviews it was clear that every one was using the same source or the financial cost of hiring a single farm worker per day (C.f. Richards, 1978 :2).

Information relating to farm management, such as labour inputs by farming operations, or data relating to cash 'declarations' by source entered on to schedules (and analysed for this study) ought to be treated more as indications of orders of magnitude rather than as absolute numerical values. This is because such figures were 'recalls' and independent corroboration was impossible in many cases. However, a parallel study by Johnny (1979) in Southern Sierra Leone would seem to give some idea of the extent of reliability of farmers' recall data. This study used carefully measured farm size data in conjunction with farmers' estimates of 'farm size' in local units at the time of cropping. A year later, the same group of farmers were visited and 'recalls' of their study year farm sizes obtained. The results are presented in table 3:1.

3:8 Participant observation

'Participant observation' methods were employed for studying farming activities and techniques in the study villages during the course of fieldwork. Acting as a labourer for sample farmers and taking part in back-breaking activities such as puddling and transplanting rice seedlings helped in understanding the key issue of farm labour shortage in the study villages. Sessions of farm work were also useful in forming a personal impression of the 'effective farming population' i.e. sex and age composition of the labour force and the pattern of task allocation. Such observations formed the basis for the characterization of the agricultural population adopted in this study and an essential complement to the demographic data discussed elsewhere in the thesis.

Table 3:1 Test for reliability of farmer recall data relating to farm size in Southern Sierra Leone

Farmer No.	Acres (measured)	'Bushels'* planted in 1978 (farmers' estimate of size)	1980 recall of farm size
1	5.81	4.5	5.81
2	0.97	0.9	0.00
3	6.27	4.2	2.00
4	5.80	4.2	2.00
5	-	12.0	12.0
6	10.21	9.0	3.00
7	2.40	3.5	2.00
8	2.87	2.8	3.00
9	3.98	2.5	2.00
TOTAL	38.31	43.6	31.81
	$\bar{X}_1 = 4.7$	$\bar{X}_2 = 4.8$	$\bar{X}_3 = 3.4$

* In local use a bushel of rice seed is reckoned sufficient to plant one acre.

$X_2\sqrt{X_1}$ - 1 acre averages 1.22 bushels (allowing for missing value for farmer no. 5)

$X_3\sqrt{X_2}$ - recalls average 72% of actual 'bushels' planted

Source: Fieldwork by Johnny, M.M. & Richards, P. in Moyamba district, 1978 and 1980 (personal communication: cited with permission)

Conventional agricultural economic analysis of labour supply in traditional farming systems is characterized by the assumption that the labour contribution of different members of the farm household are easily substitutible. Hence the convention of evaluating female labour as a stated fraction of male labour 'units', with adjustments for age (German Development Institute, 1973). But as pointed out by Johnny (1979) the sexual division of labour is a more subtle process than such assumptions would allow. Discussion of this issue on the spot revealed that 'customary' divisions of this kind are essentially grounded in ideology rather than in practical considerations to do with quantitative differences in physique. Thus for example men's work is evaluated in terms of extent of area cultivated during a specified time span. By contrast, women's work is assessed in terms of the amount of care and patience displayed (the quality of weeding and pest control for example is revealed by the amount of apparent damage in a field of crops ready for harvest). Clearly, therefore, it is unreasonable to expect that the two types of labour would ever be simply 'substituted' nor can one be evaluated in terms of the other along a single dimension of, say, energy efficiency. Changing patterns of labour allocation will relate to wider processes of changing social relations of production in the community at large, and associated forms of consciousness. Conventional agro-economic analysis travesties these subtle complexities.

3:9 Recorded interviews

Interviews were held with project staff and village extension workers. These were either tape recorded or entered into field note books. Differences between the conceptualization of farming problems by project staff on the one hand, and the farmers on the other were explored in such interviews. As with all aproaches based on the idea of 'dialogue' considerable understanding between project staff and the research group emerged.

Gaming approaches were utilized at several points in the work. For example in order to explore the reaction of different groups of farmers to different rice seed types a 'game' was created using an appropriate number of stones to elicit preferences. A series of hypothetical situations were set up and then respondents were presented with the requisite number of 'stones' and challenged to make and explain their choice (c.f. Fotheringham & Reeds, 1979). Stones were used to represent different crops and

their respective theoretical yields, assuming a described set of weather conditions. In one version of the game the point of equal probability of occurrence of any of the assumed options was stressed (Found, 1971). No farmers found it difficult to work out the arithmetic involved and explain his or her decisions to us. Future investment strategies were explored in a similar format, and , these were then compared with 'actual' declared expenditure in the year before the survey.

3:10 Conclusion

To sum up, I have made an attempt in this chapter to examine the critical concepts that provide a basis for this study as well as reviewed the techniques of data collection employed during fieldwork. In defining concepts such as 'household' and 'labour cooperatives' particular attention was paid to developing a critical understanding of local ideas and debates that relate to such analytical tools. Thus the position taken in this study in relation to the concepts examined is one which is designed to incorporate local ideas as far as possible. The definitions adopted are not intended to be all-purpose but specifically geared towards an understanding of the constraints and opportunities in local agriculture which forms the focus of this thesis.

As the concept of peasant farmer is central to this analysis an attempt has been made to briefly review some of the key issues that are discernible in the literature on 'peasants and peasant societies'. The two main schools of thought have been critically evaluated followed on by an outline of the meaning of the term in the context of this study. It was argued that both schools of thought prove inadequate in analytical terms because they both use the word 'peasant' to imply a state rather than a set of social relationships. Because of this weakness, it is suggested, the two perspectives have not systematically explored the important issue of wealth differentiation within the African peasantry. We have argued that macro economic processes at any particular time and place operate to shape either the evolution of a specific 'peasant mode of production' or 'differentiation' within the peasantry.

CHAPTER 4

PEASANT HOUSEHOLD LABOUR SUPPLY AND THE SOCIAL ORGANIZATION OF FARM LABOUR

4:1 Introduction

Three main issues relating to farm labour supply in the study area will be examined in this chapter. These are:-

(i) an examination of the relationship between outmigration and farm labour supply in the study villages and the extent to which the association between the two helps in understanding spatial variation in response to the project package.

(ii) To describe and analyse the character of the flow of resources from rural households to urban residents. Particular attention will be paid to the implications of both farm labour outmigration and rural-urban food remittances for rural development. It will be argued that the impact of rural-urban food remittances can only be understood in the context of the overall commitment of different types of households to alternative sectors of the national economy. Some observers, by pursuing remittances as an isolated phenomenon, have argued that remittances (especially from urban areas) play an important role in rural, migration source regions via the provision of capital for hiring labour. Thus Griffin (1976; 359) argues that:

> Internal migration is likely to improve the distribution of income in rural areas. . . . . and accelerate capital formation and technical change on small peasant farms. Migration, in effect, enables the peasantry to overcome the imperfections of the rural credit market by creating opportunities to amass finance capital in the cities for subsequent investment in agriculture (my emphasis)

The present analysis suggests a rather different interpretation and the argument is developed that the remittance process is dominated by a movement of resources from rural to urban areas as part of a process in which rural producers shift from agriculture to urban-oriented activities. Viewed thus the remittance phenomenon will be argued to be counter-productive in the context of rural change based on labour intensive technology.

(iii) To attempt to analyse the 'social construction' of labour for farm work. A vital feature of farming systems in the study area is the utilization of substantial amounts

of cooperative labour through institutions known as 'companies'. These work groups have been widely described in many cases as sources of labour for time-constrained farming operations in other parts of West Africa (c.f. O'Laughlin, 1973; Massing, 1974; Linares, 1980; Burnham, 1980; also see Sharpe,1981 for a summary critique). In the literature, however, these work groups have not infrequently been presented as institutions organized around an 'ideology of reciprocity' (Firth, 1979). Approached within this framework, work groups are analysed as if labour exploitation is non-existent. It will be argued here that contrary to this general understanding, work groups provide opportunities for a few well placed rural households to 'exploit' the labour of others. The principle of time-sharing, around which reciprocity between work group members operate, is crucial to the present analysis.

The following points will therefore be demonstrated in this chapter:

(a) that labour rather than land is the principal constraint on increasing agricultural output in the study area; this brings into question the validity of the land-shortage, labour-surplus issue which appears to be a central policy assumption in IADP planning.

(b) An emphatic rejection of the ecological-impoverishment-outmigration thesis as inadequate for comprehending the complex structural issues involved in migration decision-making. Rather than migration being forced upon young farmers by land shortage it is argued here that oumigration is the result of a deliberate decision-making process by households that want to maximize participation in the urban-oriented, merchant-capital dominated trading sectors of the economy. The essence of the approach is to draw attention to the structural contradictions in the national economy underlying this trasformation.

(c) That project credit would appear to be reaching rural households which are further advanced in the transformation process noted above. (Further evidence for this central conclusion will be presented in other appropriate chapters of the thesis).

Most of the material presented in this chapter is derived from information collected in a household survey during the course of fieldwork. 'Recall' data are used extensively, particularly in the analysis of labour input. As noted above, 'company' labour constitutes and important source of farm labour in the study area. The mobilization of 'company' labour usually involves large outlays in cash and kind, and as a result farmers tend to retain an accurate 'record' of the number of people involved as well as the number of days worked per operation. While noting the caveat implied in Johnny's (1979) detailed study of the reliability of farmers' recall data (see table 3:1) there are nevertheless reasonable grounds for confidence that the recalls are reasonably accurate.

4:2 The process of family formation

'Africans measured wealth and power in men rather than in acres;
those who exercised power were men-owners rather than land owners'
(Hopkins, 1973 : 26).

Family formation in the study area can be viewed as a process analogous to that of capital formation in the more 'advanced' capitalist economies (Amin, 1974; Wallerstein, 1976). In all study villages, as in the rest of rural Sierra Leone (c.f. Fyle, 1979; Abraham, 1976) marriage is polygamous (even for Christian families) and the acquisition of wives is seen by men as vital both for meeting the labour needs of farm work and for the ability of the family to diversify into non-farm activities such as trading and education. It is not surprising, therefore, that social prestige and wealth are conceived, as noted by Hopkins above, in terms of the size of a farmer's household. Because agriculture is still dependent upon human labour, the decision to acquire many wives has an economic rationality as it ensures a certain amount of vital female labour at critical times of the farming calendar. Prevailing ideology emphasises a male/female axis in the distribution of agricultural tasks. North-central Sierra Leone has been shown to have shorter than average fallow periods in comparison with other regions of Sierra Leone (SLG, 1965; Blair, 1977; Mosley, 1979; Johnny, 1979). In consequence weeding problems are severe, especially in upland farms. Since weeding of upland plots is conceived of as essentially an adult-women's task, the number of wives becomes an important determinant of the size of upland intercropped farms. Thus even though wife acquisition involves a large financial outlay, typically between Le. 200.00 and Le. 400.00 (bride wealth), the returns in terms of additional labour supply and/or social status would seem to justify this expenditure from the standpoint of male farmers.[1]

Children constitute an additional source of labour and different households pursue different strategies in 'reinvesting' their children in appropriate sectors of the economy (see Table 6:6 for example). Later it will be argued that better-off households appear not to be 'reinvesting' their children in farming. Instead richer farm families enter into trade and

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1 - Source : Interview B2 on 9/8/79 with the Section Chief in Bumban. The informant emphasised that bridewealth has increased considerably since the period of the diamond rush in the mid 1950s. This was attributed to the increasing monetization of local institutions. He recalled paying c. Le. 55.00 as bridewealth for his first wife 30 years ago.

more lucrative urban-based activities. An alternative is to invest resources in the education of their children, through which process 'wealthier men will seek to . . . give them access to the benefits of salaried employment or will establish themselves or their children in trade' (Williams, 1976 : 148). A fundamental argument of this thesis can be summarized thus: that project farmers, being 'wealthier' in human and material terms than non-project farmers, and thereby appearing to project staff to merit a superior credit rating, are interested in the project package as a way of handling the short-term problem of transition from agriculture to the urban/trading sector. Contrary to the supposition that outmigration is imposed upon young farmers through ecological improverishment (c.f. Banton, 1957; Finnegan, 1965) rural outmigration is better viewed as the effect of the process of transferring human and financial resources into non-agricultural sectors of the economy, by choice. Thus in choosing to make this transition richer farmers, with project credit added to their portfolio (usefully freeing their own capital for more direct investment in trade or education - see below) tend to encounter a contradiction. Project technology is more labour intensive than older farming methods but project households have fewer available household labourers. This problem cannot be easily solved by hiring labour as this is in acute short supply (see chapter 2 and below). Thus project farmers are likely to face problems in attaining predicted yields (even assuming these are technically feasible) and hence view loan default as a 'rational' alternative to abandoning their priority involvement in the urban sector.

Of the three case-study settlements Matotoka shows a much more positive response to the activities of IADP compared to the other two study villages. It is suggested that this significant spatial variation in response (see Fig. 5:1 for example) derives partly from the fact that Matotoka farmers as a group appear to be less prosperous than their counterparts in the other two villages (see Table 6:1 for example). For example Matotoka farmers own considerably fewer cattle than farmers of either Bumban or Gbendembu. Matotoka farmers appear to see themselves as having a longer term commitment to farming and for this reason may be better disposed to project loan repayment.

4:3 The demographic structure of surveyed households

In table 4:1 the results of the demographic survey of sample households in the study villages are presented. It is shown here that, overall household sizes in the project area are large, with a mean of 9.7 persons per household (by comparison with the average for the country as a whole). The national average household size is 4.0 persons (Sierra Leone Government 1965). The mean household size derived from our field data compares closely with Devis's 8.8 and 9.9 for Temne and Limba ethnic groups in a survey of rural areas in the northern province (Devis, 1972: 25). Mitchell's (1961) demographic analysis of Matotoka in 1961 allows a direct comparison with our results. At that time he calculated an average of 7.7. persons per household but went on to note the modal household size at about ten persons would then be more typical. But infact two 'types' of families were implied by Mitchell's (1961) data. Thus he notes that:

> The frequency distribution of household sizes is bomodal, suggesting two distinct types of families with about five and about ten persons in each.

The fieldwork for the present study suggests that these two modal classes tend to correspond to the distinction between 'project' and 'non-project' household. Table 4:1 reveals these basic contrasts between project and non-project households. Table 4:1 reveals these basic contrast between project and non-project households in all three study localities. There is a marked tendency for project households to be larger than non-project households. The latter also tend to be a more compact group, as shown by the size of the associated standard deviations from the mean. The suggestion here therefore is that household size, in the study area, is principally an economic phenomenon, associated with the demands for labour on the farm , as well as with variations in wealth and degree of participation in other activities such as trade.

The contrast between project and non-project households is even more marked, however, when we turn to consider the work force composition of sample households. Further evidence will be shown later to demonstrate that labour supply influences innovation adiption more than land shortage does. At this juncture it is sufficient to note that a breakdown of household members into those available for farm work and those engaged in other forms of employment reveals that sample non-project households tend to have a larger farm labour force than project farmers (despite smaller households.) For example in terms of the male work force in agriculture, Bumban project-households . tend to have fewer on-farm male labour than in the case for non-project households. By contrast, Bumban project households appear to have over twice as many female agricultural workers than is the case in non-project households. This is related to the greater number of wives in the

Table 4:1 Mean household size and average labour capacity of sample households

	PROJECT HOUSEHOLDS		NON PROJECT HOUSEHOLDS	
Locality	Mean household size	Mean labour capacity	Mean household size	Mean labour capacity
Bumban	8.9 (7.7*)	4.6(3.8)	5.4(2.3)	3.5(1.5)
Gbendembu	13.4(12.8)	3.7(3.2)	10.8(5.6	3.7(1.7)
Matotoka	10.5(7.0)	3.8(2.4)	8.8(4.5)	4.3(2.4)

* Figures in bracket refer to standard deviations of the mean values.

Source: Fieldwork, 1979

Mean labour capacity of all Project Households = 4.03 persons

Mean labour capacity of all non-Project Households = 3.83 persons

former households (which itself reflects a greater amount of 'wealth' in such households) when compared to the latter. In all three localities, project households are revealed to have more members engaged in off-farm cash earning activities than non-project households.

Table 4:2 indicates the major structural characteristics of the two sample strata (the spatial pattern of these contrasts is also worth noting). Thus 41% of all persons surveyed in the household census were adults primarily engaged in farm work. The preponderance of females noted elsewhere is confirmed by a sex ratio of 5 females to 3 males, reflecting the selective out-migration of the latter to the urban areas and diamond mining districts of Kono and Kenema.

According to Table 4:2 project households are not only larger, but contain more women, children and other persons engaged in non-farm cash earning activities than non-project households. In terms of the number of young adult males in agriculture, Matotoka stands in marked contrast to Bumban and Gbendembe. Matotoka project households report twice and four times as many young adult males in agriculture as Bumban and Gbendembu project households respectively. This evidence partly explains why project innovations appear to be more successful in Matotoka than elsewhere in the study area (see Fig. 5:1). As will be argued in detail in another section, swamp rice cultivation via improved techniques more than doubles the running labour costs, as distinct from 'development' labour of swamp cultivated along local lines. Given the shortage of labour (brought out in the demographic analysis in chapter 2) in the project area, it would appear reasonable to expect farmers to give a high priority in their innovation adoption decision-making to labour supply considerations. In group discussions farmers frequently observed that the cash component of the credit given by IADP, designed to help with labour hiring, is grossly inadequate. Such complaints might bring into question the validity of project predictions relating to yield, since attainment of these yields depends on obtaining adequate labour at critical periods of the year as for example during transplanting of rice seedlings.

The greater involvement of young women in farming is also revealed in Tabel 4:2. Most of the women surveyed were wives of household heads. The acquisition of wives involves male farmers in considerable expenditure in both cash and kind, but it also yields great returns in terms of social prestige, political clientship and a reliable supply of labour from within the household. A more direct economic benefit of a large number of wives would seem to be the household's capacity to diversify into more lucrative non-farming enterprises. One farmer

Table: 4:2 Demographic and occupational structure of sample households, classified by locality .

Locality	Engaged in farming		old	sub-Total	Non-farm employment	not employed	no. of children	Grand Total
	young	middle aged						
Bumban Project (n=20)								
Male	7	5	12	24	6*	4*	73*	) 177
female	28	25	14	67				)
Non Project (n=18)								
male	13	7	14	34	2	4	28	97
female	5	10	14	29				
Gbendembu Project (n=20)								
male	4	15	7	26	47	4	142	} 267
female	20	21	7	47				}
Non-Project (n=19)								
male	14	9	3	26	28	3	104	) 205
female	28	16	0	44				)
Matotoka Project (n=19)								
male	17	13	2	32	15	15	97	) 198
female	31	7	1	39				)
Non-Project (n=19)								
Male	19	12	6	37	4	11	71	167
Female	25	15	4	44				
TOTAL:	Male			179 (16%)				1111
n=115	female			270 (24%)				

Source: Field Survey, 1979

stated this point thus:

> 'Our wives are a great asset to our survival in the modern world where business is important. With many wives the community respects you in the first instance as a responsible 'big man'. Many wives also permit specialization within the household. For example one of my own wives spends most of the time in gara buying and trading in the big towns'[1]

The social prestige dimension of the size of a farmer's household seems to have an important bearing on the type of farmer benefitting from the project package. The project credit unit heavily relies on recommendations and endorsements provided by community leaders such as chiefs in deciding whether or not to accept a farmer as a recruit. For a farmer to qualify for credit, his creditworthiness should be given a high rating by such leaders. Since the latter are likely to rely upon criteria such as household size (especially the number of wives in a household), it is possible to argue that the current system of recruiting farmers would operate to systematically eliminate participation by smaller, less 'wealthy' households (see tables 4:1 and 4:2). However, on the other hand, community leaders might choose to recommend less 'wealthy' farmers as an exercise in political patronage rather than according to their capacity to repay project loans. If the latter is the case, as suggested by data presented subsequently, then project credit is manipulated as a device for reinforcing relations of political dominance and dependency rather than acting to free poor farmers from usury. This point is returned to in chapter 5.

On the basis of data presented in Table 4:2, some tentative assessments can be undertaken relating to the size of the 'effective farming' population and the proportion of farmers that are likely to benefit from the activities of IADP. From Table 4:2 it is estimated that the farming population in the project area is composed of 10% household heads, 6% other adult male workers and 24% adult female workers. The 1974 total population figure for the project area is circa 215,000. Field work observation would suggest that probably 80% of all households in the 3 sample villages are 'farmers' in the sense of Table 4:2 i.e. where the head of household farms but the household contains persons engaged in non-farm activities such as trade, craft, wage labouring etc. on a full or part-time seasonal basis. Thus a best estimate for the IADP area as

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1 - Source: Interview A1/20/8/79 with section chief in Bumban - a sample project household head. This farmer has over 15 wives ranging in age from c. 18 to over 50 years. He later explained to me that it is the younger women in the household that are predominantly involved in farming, while their 'seniors' care for the children as well as engage in trading.

whole would be circa 17,200 farming heads of household, 10,300 additional male farm workers and 42,000 female farm workers. The project appraisal document (Appraisal of IADP II, Sierra Leone, 1975) aims to reach an estimated 16,000 farmers apparently corresponding to our estimated 10% of the farming population that are household heads. This underestimates the potential number of participants by a considerable margin, taking no account of potential women participants for example.

The evidence presented thus far suggests that project and non-project households differ structurally. But even more importantly it indicates that IADP appears to be systematically eliminating smaller, less 'wealthy' farmers from its farmer recruitment. In this connection women farmers would appear especially disadvantaged as both the scale of farming operations promoted by IADP and local tendency to treat women as part of a man's wealth work against the specific needs of the estimated 42,000 women farmers (See chapter 8).

4:4 The Migration of Agricultural labour

As indicated in the introduction to this chapter, this section will aim at analysing outmigration within the study area, especially the impact of outmigration on farm labour supply. Previous attempts at 'explaining' rural outmigration will be reviewed critically and an alternative to the conventional wisdom suggested.

The migration of manpower in West Africa has a long history of research interest (c.f. Berg, 1965; Banton, 1957; Levi, 1971; Mitchell, 1963; Harvey, 1966, 1972; Blair, 1977; Byerlee, Tommy & Fatoo, 1976).

Analysis of 1974 census data and intercensal trend for the period 1963-1974 elsewhere showed that the project area is characterized by heavy outmigration of young males in the 15-39 age range. Further evidence for male outmigration is presented in Table 4:3. In terms of the proportion of young males engaged in farming there is a good correspondence between the 1974 census results and our field data. It is important to reiterate the point that household members enumerated for this analysis consisted only those who were defined as being in regular residence with the head of household. The extent of outmigration of young males is implied by the figures in Tables 4:3 and 4:4. In the provisional census results for Gberdembu-Gowahun chiefdom males in the 15-34 age range constitute 17% of all adult males. This figure closely corresponds to the figure derived from fieldwork for the composition of the

TABLE: 4:3 Young adult male farmers as a percentage of total adult on farm population for sample households and localities.

Locality	Project Households	Non-Project Households	1974 Census*
Bumban	8%	21%	18[1]%
Gbendembu	5%	20%	17[2]%
Matotoka	24%	23%	21[3]%

Source: Field Survey and Calculations based on provisional 1974 Census results.

* Indicate males 15-34 years old as a percentage of all persons aged 15 years and over in each chiefdom as recorded in the 1974 Census.

1 - Census results for Biriwa Chiefdom

2 - Census results for Gbendembu Gowahun Chiefdom

3 - Census results for Tane Chiefdom

Table 4:4 Adult females as a percentage of total household members available for farm work in sample households.

Locality	Project	Non-Project	1974 census*
Bumban	74%	46%	56[1]
Gbendembu	65%	62%	59[2]
Matotoka	55%	54%	51[3]

* As in Table 4:3 above.

1,2, 3 - as in Table 4:3

Source: Field Survey, 1979

labour force in non-project households in which 20% of all labour is supplied by young adult males (Table 4:3). By contrast, Project households have only 5% of their young adult males available for farm work. Though less marked than in Gbendembu, the Bumban sample reveals a similar pattern of relatively few young males in farming and even fewer in respect of project households. It is important to note that in Matotoka where the Project management Unit judges project response to be satisfactory there tends to be a slightly higher percentage of young adult males available for farm work than in either of the other two study settlements. This contrast, it is suggested, is linked to the relative success of project innovations in Matotoka. The greater involvement of young men in farming suggested by the Matotoka sample is part of the evidence for the contention that Matotoka farmers as a group are less wealthy than their counterparts in Bumban and Gbendembu. Much of the wealth in the latter cases is found in t he form of livestock, and partly derives from involvement in trading links with other parts of the Upper Guinea region in pre-colonial times (see Fyle, 1979; Howard, 1979). Matotoka farmers have few livestock. One consequence of this contrast is that farmers in Bumban and Gbendembu still tend to be more oriented towards trading and Freetown-focused activities, hence fewer of their young men are available for farm work.(c.f. Table 4:2). Since, as noted, the project tends to reach wealthier farmers it is not surprising that these households have especially few young men available for work.

Table 4:4 reinforces the conclusion which emerged from the demographic analysis of the project area in chapter 2 i.e. the prevailing population structure reveal extensive outmigration of young men in the 'effective farming population' age group (i.e. 15-39). The absence of men means that female labour is predominant in local agriculture. In all three villages females constitute a substantial proportion of the total on-farm work force; over one half in most cases. In all three villages, however, project households show a systematically higher rate of female participation in farm work than is the case for non-project households. This reflects the point made in relation to table 4:1 that project heads of household are 'wealthier' in terms of number of wives.

Thus far an attempt has been made to present the evidence for high rates of outmigration from the study area in general and for the pattern this phenomenon takes at the level of different households. The problem of outmigration was a topical issue when discussing farming problems with sample farmers. Other researchers have presented similar evidence for heavy outmigration in Northern Sierra Leone (c.f. Banton, 1957; Finnegan, 1965; Blair, 1977; Levi, 1971; Mitchell, 1966). In the next section an attempt will be made to present the conventional thought on the phenomenon of rural outmigration (especially in the context

of Northern Sierra Leone).

4:5 The Conventional explanation of rural outmigration in Northern Sierra Leone.

Prior to the first systematic national census in Sierra Leone (1963), Banton (1957) used evidence from various chiefdoms in the Northern project area to illustrate the commonly-accepted 'population pressure/land shortage/ecological impoverishment' explanation of rural outmigration. Analysis of intercensal population trends in the project area in chapter 2 suggests that even though rural rates of population increase may continue around 2-3% per annum, outmigration would appear to absorb much of this increase. Thus in the project area, for example, instead of an expected net growth in the inter-censal period (1963-1974) of 30-40%, total population only increased from 178,093 in 1963 to 214,933 in 1974 i.e. only 21%. Much of this increase was associated with the regional urban centres of Makeni and Maguraka (see Fig. 2:4).

Despite lack of concrete evidence for a runaway population crisis the so-called 'ecological degradation thesis' continues to attract attention. An earlier formulation of this thesis is summarized thus (for Biriwa Limba chiefdom in the project area - see Fig 2:2):

> Much of the land is degraded or in short supply . . . The population is too large to be supported by the available land and methods, and conditions are therefore unattractive even for those who had decided to stay and work their own farms (Finnegan, 1965).

She then goes on to link land shortage and rural outmigration in the following way:

> Men therefore leave either because they have no land to farm, if they are to give the bush the reasonable fallow period, or because their land has been given as a pledge . . . . . (Finnegan, 1965: 91-92) my emphasis)

The problems with this formulation of the rural outmigration problem and its implications for rural change planning in Sierra Leone will be examined in the next section.

4:6 Agricultural planning and the 'ecological degradation thesis'

The Northern Area IADP, by placing initial emphasis on swamp rice cultivation, reflected conventional agricultural development wisdom in Sierra Leone. The official thinking behind agricultural planning is succinctly summarized in the National Development Plan for the period 1974/75 to 1978/79 thus:

> . . . upland rice farms in areas with heavy rainfall are liable to severe soil erosion. On the other hand, the swamp land rice yield is higher averaging about 2,500 lbs. paddy per acre even under conditions of low-level technology[1] (Ibid:126).

A lack of self-sufficiency in food production, especially rice, is argued to stem from declining output from upland cultivation which in turn results from increased population pressure on land, as postulated by Banton (1957) and Finnegan (1965) among others. This type of thinking goes back to the colonial period at which time swamp cultivation was first promoted for the ostensible reason of arresting severe environmental degradation, but probably was designed to protect and assist the production of oil palm which constituted a vital source of revenue for the colonial administration. Martin (1938), a colonial Director of Agriculture noted that the promotion of swamp cultivation was necessary because of the 'importance of preserving the 'high bush' (i.e. upland rice growing areas) in connection with the oil palm industry'. It is significant to note that the drive to halt supposedly population-induced ecological impoverishment coincided with a period of drastically reduced palm kernel production which was attributed to 'the very big increase in upland farms in 1937' and it s associated extensive burning which affected the yield of oil palm.

Several recent studies have shown that contrary to the assumptions of land shortage it is labour rather than land that is often in short supply in West Africa's agriculture (c.f. Clark and Haswell, 1964; de Wilde, 1967; Ruthenberg, 1980; Barker, Oguntoyinbo and Richards, 1977; Norman, 1974; Spencer, 1975). Johnny's (1979) detailed farm management study in Southern

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1 - The figures cited by the plan suggest that upland farm returns are only c.9 bushels milled rice per acre compared to c.21 bushels milled rice per acre of swamp, assuming the official milling recovery rate of 50%. This comparison is inadequate as rice is only one crop from an upland intercropped farm as opposed to a swamp monoculture.

Sierra Leone questions the validity of the assumption that swamp farming is more 'efficient' than upland intercropped systems. His study shows that intercropping, as is practised on upland farms, more than doubles the food value of the output from the upland rice farm. Consequently, he maintains, input-output ratios are in geneal terms better with respect to upland farms than for swamps (see Table 4:5 for a summary).

The phenomenon of land shortage was closely examined during fieldwork. Table 4:6 and Fig 4:1 summarize the result of data relating to the availability of suitable farm land for sample households. Contrary to Finnegan's assertion that rural outmigration is due to land shortage, the evidence here suggests that in the project area there are relatively few cases in which land for upland cultivation is in short supply. Only 26% of all household heads interviewed reported shortages of suitable upland farm sites. By contrast a much larger number of cases were reported in which swamp land is in short supply or totally unobtainable. 46% of all respondents reported this latter type of shortage (n = 111).

The above findings are in marked contrast to results obtained from a study of perceived land shortage among peasant families in selected villages of Kailahun district in Eastern Sierra Leone (Karimu, 1977). In these villages, however, the land-use impact of the so-called twentieth century 'export crop revolution in tropical Africa' are still to be seen in large expanses of cocoa, coffee and oil palm in permanent and pure stands. Here, farmers reported widespread scarcity of suitable upland areas for rice cultivation as a result of cash crop involvements (c.f.Karimu, 1977). But even in these villages no direct relationship was suggested by farmers between rural oumigration and land scarcity induced by cash crop production. Rather farmers' explanations emphasised ideas relating to the intensification of wealth inequality consequent upon cocoa and coffee adoption which in turn meant that some categories of rural households can afford to transfer their youths into the urban sector by investing in education. Thus the farmers' view of outmigration, even in instances where land scarcity may be a problem, is that the phenomenon is part of a structural process of change linking rural to the urban sectors set within a global context of commodity trade.

The conclusion that would appear to emerge from various relevant studies is that ownership of some categories of farmland is highly skewed in favour of some family groups within each village community (c.f. Johnny, 1979; Turay, 1973, 1980; Karimu and Richards, 1980; Richards, 1981). In Matotoka, for example, oral tradition indicates that approximately a thir d of the village land area belongs to the Gbla clan who are believed to have been the first settlers and cultivators in Ro Polo, the original site of Matotoka . In operational terms,

		Yield Kg/ha	energy 1J x 10^6
Rice	Oryza	1063	8.94
Sorghum	Sorghum Margaritiferum	200	1.73
Fonio	Digitaria exilis	?	?
Bulrush Millet	Pennisetum leonis	?	?
Maize	Zea mays	104	1.49
Cassava	Manihot spp.	747	2.76
Cassava leaves		95	0.16
Sweet potatoes	Ipomoea batatas	178	0.62
Sweet potato leaves			
Yams	Dioscorea spp.	87	0.22
Cocoyams	Xanthosoma sagittifolium	65	0.23
Cucumber	Cucumis sativus	261	0.18
Pumkin	Cucurbita spp.	327	0.22
Tomato	Lycopersicon esculentum	149	0.13
Garden eggs	Solanum melongena	20	0.03
Beans	Phaseolus lunatus	297	3.40
Egusi	Colocynthis citrullus	68	0.11
Pepper	Capsicum spp.	9	0.01
Beniseed	Sesamum spp.	30	0.50
Okra	Hibiscus esculentus	57	0.10
Krain-Krain	Corchorus olitorius	17	0.03
Sawa-sawa	Hibiscus sabdariffa	70	0.12
Hondii	Amaranthus hybridus	22	0.04

RICE	1063 kg (27%)	8.94 million kj	(42%)
OTHER CROPS	2867 Kg (73%)	12.19 million kj	(58%)
TOTAL	3930 kg	21.13 million kj	

Table: 4:5 Average yields per hectare, intercropped upland rice farms Moyamba area southern Sierra Leone (after Johnny, 1979)

Table 4 : 6 Land availability according to type for sample farmers in the three survey localities

Type of land	Enough	Inadequate	None
Upland	82 (73.9%)	26 (23.4%)	3 (2.7%)
Inland Valley swamp	60 (54.1%)	45 (40.5%)	6 (5.4%)

* Percentages based on n = 111 = 100%

Source: Field Survey, 1979

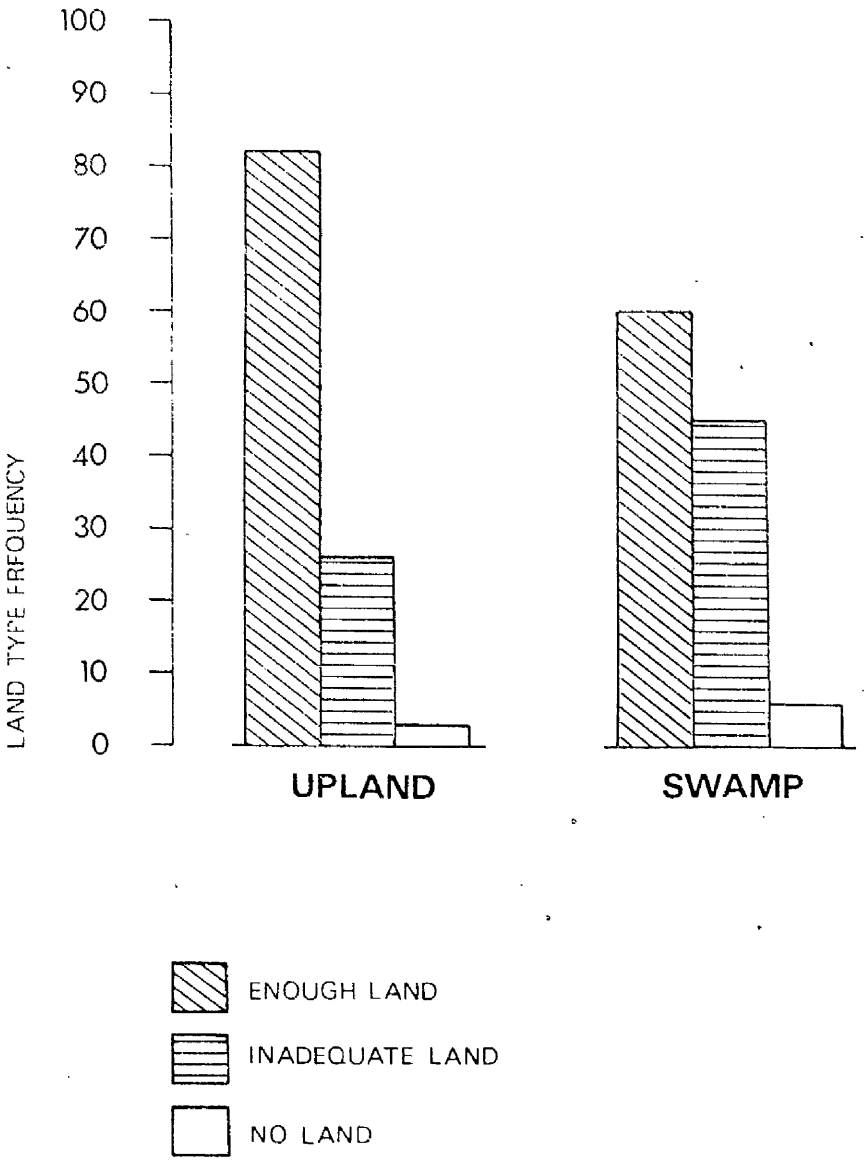

Fig 4:1 Frequency distribution of available farmland reported by sample farmers.

however, outright land shortage is a rare event in Matotoka. Thus land seems adequately available to those needingitin most situations (with possibilities for leasing contracts given the necessary negotiating skills) and farmers in Matotoka observed that land supply is not a critical issue for farm work.[1]

Table 4:7a & b present results of a chi-squared (χ^2) analysis of material relating to access to farm land by Gbendembu and Bumban farmers, where comments by farmers suggested that differential access to land was more critical than in Matotoka. The statistical test shows no significant degree of association between project innovation adoption and land availability in these villages. It is, however, apparent that access to swamp land is more a problem among non-project than project farmers.

One of the rules legitimising swamp 'ownership' is that the household clearing an upland interfluve may lay claim to the adjacent swamp down to the water course. Thus from the standpoint of the IADP, 'ownership' of many inland valley swamps tends to be fragmented in the least desirable of directions i.e. following the water course. Farmers stressed that swamp forest is an important resource in its own right even though it may appear neglected from the point of view of farming. Raffia palms are one of several 'wild' trees which are important in village and household economies. The beverage from raffia palm, for example, is considered a useful source of 'alternative food' for adults at work during the 'hungry season' at which time the nutritional needs of children, sick and old people take priority over those of healthy adults. Although swamps may be 'acquired' by land clearance rules, access for gathering essential resources, such as palm leaves for roofing material, are subject to few, if any, constraints. Thus it may be argued that it is only in the context of modern land development for swamp rice production, with its large labour and capital investments, that 'ownership' becomes a critical issue. Some farmers, for example 'strangers', with no local land holding rights have hitherto been able to 'rent' or beg land for cultivation. In Gbendembu a group of farmers inan informal interview stressed their lack of access to swamp land arising from the fact that their forbears emphasised upland rather than swamp clearance. Notwithstanding their 'swamplessness',

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1 - Source Interviews with heads of the Gbla and Kommeh families in Matotoka compiled in field note book A5 on 8/7/79. These are the two families believed to 'own' most of the village land. It was only these families that provided some evidence of land leasing to urban businessmen for tobacco cultivation. The Gbla family leased c.710 acres (c. 287.55 hectares) of upland to a businessman based in Magburaka in 1975 for 27 years. The land was valued at Le 1.00, Le 2.00 and Le. 3.00 per acre for the first ten, second ten and last seven years of the lease respectively. The Kommeh family leased c. 50 acres (c.20 hectares) for 5 years to a Makeni businessman. The land was valued at Le.1.50 per acre.

Tables 4:7 a&b Access to farmland for Project and non-Project households in Gbendembu and Bumban.

Table 4:7a SWAMP (including Boliland*)

	ENOUGH	INADEQUATE	
PROJECT	29	26	55
NON-PROJECT	12	42	54
	41	68	109

$\chi^2 = 9.54$ (n=109)
$\phi = 0.30$

Table 4:7b SWAMP (excluding Boliland*)

	ENOUGH	INADEQUATE	
PROJECT	19	18	37
NON–PROJECT	8	27	35
	27	45	72

$\chi^2 = 5.07$ (n=72)
$\phi = 0.27$

Source: Field Survey, 1979

* Bolis are gently undulating tracts of land (between 45 and 72 meters above sea level) which are seasonally flooded as a result of rise in the water-table. Approximately 40% of the Project area is estimated to belong to this topographic regime.

periodic access to swampland has been arranged by such families through customary tactics of 'land begging' (Source: tape recorded interview with a group of non-project farmers in a section of Gbendembu. These farmers were not part of the survey sample). Such arrangements involve the 'payment' of a nominal 'royalty' designed to emphasise that only use-right and not 'ownership' as such is transferred by such contracts. These contracts were agreed in the past whenever it was thought appropriate by 'swampless' families to fallow their uplands for an extended period.

In effect, IADP swamp development techniques, it is argued, have meant that farmers are increasingly unwilling to share out 'spare' land on a short-term basis. As a result, farmers with limited or no access to swampland, especially in Gbendembu where this appeared to be common, expressed strong anti-project sentiments. For these farmers the IADP is created 'for the benefit of the chiefs and local politicians' and therefore is seen as a marginalizing force.[1]

One implication of the conventional explanation for high rates of rural outmigration in Northern Sierra Leone outlined earlier is that 'renting' land for farming would become a feature of such pressurized communities. Accordingly attention was paid to this phenomenon in the survey. Results in Table 4:8 show that only circa 14% of the total sample household heads (n = 111) reported the use of 'borrowed' land for farming purposes. Renting is probably not so common as pledging (though unfortunately the survey generated no data on this). Pledging of land is related more to indebtedness than land shortage as such. It is a common feature of village life in Eastern Sierra Leone, for example, for poorer farmers to pledge their cash crop plantations (coffee and cocoa maily) to richer farmers in order to settle emergencies such as heavy court fines (c.f. Karimu, 1977).

The contrast between the Matotoka sample on the one hand, and the Bumban and Gbendembu samples on the other is underlined in Table 4:8. No cases of land 'renting', swamp or upland, were reported by the former group of farmers whereas it was reported in the latter villages. This result is consistent with the observation made earlier that in terms of overall land supply Matotoka seems more adequate than is the case for the other study

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1 - This view was confirmed by a village extension worker of IADP based in Gbendembu during a tape recorded interview on 30/11/79.

Table 4:8 Land 'renting' among sample farmers in the survey villages.

Locality	Farmers using 'rented' Upland		Farmers using 'rented' swamp	
	Project Households	Non-Project Households	Project Households	Non-Project Households
Bumban	5 (n=19)	7 (n=18)	5 (n=19)	5 (n=18)
Gbendembu	3 (n=18)	6 (n=19)	3 (n=18)	6 (n=19)
Matotoka	0 (n=18)	0 (n=19)	0 (n=18)	0 (n=19)

Source: Field Survey, 1979

Table 4:9 Project and non-Project sample farmers compared with respect to the 'renting' of upland for farming

	'Renting'	'Not renting'	
PROJECT	8	47	55
NON PROJECT	13	43	56
	21	90	111

n = 111

$\chi^2 = 1.98+$

$\phi = 0.13$

+ statistically insignificant ($\alpha = 0.05$)

Source: Field Survey, 1979

Table 4:10 Project and non-Project households compared with respect to land borrowing for farming purposes

	Borrowing Land	Not borrowing Land	
PROJECT	16	94	110
NON–PROJECT	24	88	112
	40	182	222*

$\chi^2 = 1.01^+$
$\phi = 0.09$ (n=111)

*Farmers asked about both swamp and upland
+Statistically insignificant ($\alpha = 0.05$)

Source: Field Survey, 1979

villages.

'Renting' is in general terms restricted and the evidence for its existence need not imply a generalised land shortage. Land borrowing is as likely to be a function of:

(a) Personal history, i.e. whether a farmer is a migrant or not. 'Strangers' are more likely to 'rent' land than farmers with local land holding rights;

(b) 'family' demographic trends i.e. changes in the effective farming population in a specific land-holding group in relation to available land resources. Some family groups have grown more than others (c.f. Johnny, 1979).

For the contingency table on the pattern of land 'renting' (see Table 4:9) the null hypothesis of no significant difference between project and non-project farmers with respect to the 'renting' of upland is confirmed ($\alpha = 0.01$). This result is consistent with the findings in figure 4:1 which show upland for all categories of farmers to be in relative abundance.

To further test the hypothesis that land shortage is a general problem, as implied by the ecological impoverishment thesis, a chi-squared test was applied to the material in Table 4:10, combining figures on both borrowed swamp and upland for all farmers interviewed. Again the result shows no significant distinction between the project and non-project samples in respect of land borrowing.

High rates of rural outmigration are characteristic of the study area. Owing to the widespread acceptance of the 'ecological impoverishment' thesis to explain this phenomenon and its use as a basis for agricultural planning, a major aim in this chapter is to argue that outmigration is unlikely to be adequately explained as a reaction to 'population pressure' in Northern Sierra Leone. In the following section, an alternative explanation is outlined.

4:7 Toward an understanding of rural outmigration in Northern Sierra Leone

The literature abounds with models designed to assist social scientists in the analysis of the phenomenon of migration. Broadly speaking, there are two major types of approaches:

(i) An 'environmentalist' school of thought in which emphasis is placed on the dominant role of the negative attributes of the migration source region in the decision to move. This generally leads to a 'push-pull' type of explanation. (c.f. Banton, 1957; Finnegan, 1965; Hunter, 1972; Swindell, 1966).

(ii) 'Marginalist' and 'individualist' approaches. These frameworks have been used mainly by economists and some 'behavioural geographers' and sociologists. They focus on factors affecting a single decision by a single individual at a specific point in time (c.f. Lewis, 1954; Todaro, 1968; Harris & Todaro, 1970; Amin, 1974; Fadayomi, 1979). Lewis and his followers (c.f. Fei & Ranis, 1964) have focused on the response of the individual to rural-urban wage differentials. The concept of average or 'marginal' rural income is central to this exposition of migration. Thus the Harris-Todaro two sector model was conceived to 'consider the effect of this parametric urban wage on the rural individual's economic behaviour' (my emphasis) and they went on to remind us that 'the distinguishing feature of this model is that migration proceeds in response to urban-rural differences in expected earnings' (Harris & Todaro, 1970: 126). As discussed in the introductory chapter such dichotomous theories pose more problems than they provide answers. Perhaps even more important with this group of marginalist theories is that they tend to assume that the social composition of rural communities is amorphous or 'egalitarian'. Consequently migration is viewed as simply the aggregation of individual responses to marginal changes in circumscribed signals such as urban-rural wage differentials. In other words these theorists do not view migration as part of a process of structural change in rural communities themselves, as well as in the wider social and regional systems. This kind of narrow formulation is rejected here and the view advanced that an adequate understanding of rural-urban migration demands an examination of processes of rural socio-economic differentiation, which in turn permits certain categories of household within rural society to shift human and capital resources to the urban sector. Thus instead of viewing migration as an individual decision at a single point in time it is suggested that in the ultimate case migration decisions reflect the interaction of individual and group interests in a determinate social formation.

There is little opportunity here to develop a major critique of marginalist formulations. For example the assumption in the Harris-Todaro model that a prospective migrant will be in a position to evaluate the probability of getting an urban job overstates, in my view, the efficiency of communication and level of information available to rural residents concerning urban labour market conditions.

The Mabole Valley region (of which Bumban and Gbendembu are a part) has been shown by recent historical work to have had a long record of participation in long-distance trade and merchant capital accumulation (c.f. Fyle, 1979; Howard, 1979). The argument pursued here is that heavy outmigration rates are linked to these historical circumstances, reflecting, in many cases, a deliberate decision by farmers to transfer human resources as well as capital out of the rural sector into other sectors of the economy although it will also be argued that exploitation of the labour of 'cadets' over a long period has encouraged young people to quit of their own volition whenever possible. It has already been shown that spatial variation exists in outmigration rates in the study area (see Fig 2:5). This is the result of differential responses of rural communities to a systematic emphasis towards urban-oriented development at the expense of or to the exclusion of the provision of rural amenities. But it is important to note that the differential response itself reflects processes of socio-economic differentiation within rural communites. Thus it could be argued that project households, being wealthier in material and human terms have deliberately prepared more of their young people for migration (by, for example, investing in education) than non-project farmers. Similarly, Matotoka farmers, less wealthy as a group appear less responsive to what Levi (1976) has termed 'urban bias' planning in Sierra Leone. The evidence for this phemomenon in Sierra Leone has been analysed in detail by Levi (1976), who concludes that the continued existence of urban bias in contemporary Sierra Leone is likely to exacerbate rural-urban migration. As with other marginalist analyses, however, Levi (1976) appears to make the assumption that all rural dwellers have equal capacity to respond to urban biased planning. Table 4:3 and 4:4, however, show considerable contrasts between project and non-project households in terms of members 'lost' by migration and seems to suggest - given that it is the more prosperous families that are most 'depleted' - that differences in wealth constitute the critical issue.

A stark recognition of the structural basis of rural outmigration in Sierra Leone, in the context of uban-biased planning (though not necessarily implying Lipton's (1974) assertion that the major conflict is that between all urban and all rural dwellers in the Third World), was made in the last development plan, thus:

> Perhaps the most important facts about the regional situation in Sierra Leone are: (i) the primacy of the national capital, Freetown, and (ii) the marked disparities in the levels of economic, social and political administrative development between Freetown .... and the rest of the country (National Development Plan, 1974/75 - 1978/79: 96).

Sectoral planning presents more evidence for urban bias. Thus the National Development Plan starkly recognises the contradictions between policy rhetoric and genuine policy action as partly responsible for the underdeveloped nature of the agricultural sector when it admits that:

> In spite of being the sector with the highest priority in terms of policy, the actual allocation and disbursements of government funds to the agriculture sector averaged about 5% and never exceeded 10% per annum during the period 1961-1971 (Ibid.: 128)

To recap therefore, in attempting to understand rural outmigration it is helpful to conceive the process as resulting from the interplay of two types of contradictions. The first contradiction is present in rural societies and arises from the articulation of rural societies with merchant capital, beginning during the period of pre-colonial long-distance trading networks (see Hopkins, 1973; Fyle, 1979; Rodney, 1976). These interaction processes help in the development of rural differentiation in wealth. In consequence the more wealthy rural parents decide to invest heavily in formal education for their children under disproportionate influence from the urban sector and in particular the rewards received by certain groups within that sector. The urban sector to a large extent lives off rurally-generated wealth (for example abundant and cheap food) which urban bias undermines.

Meanwhile inappropriate spatial planning policies adopted by the state tends to create another type of contradiction at the national level. Through such policies educational facilities and other services (for example medical services) become particularly concentrated in a few urban centres. For instance a central statistical survey result showed that in 1977 nearly 1/3 of all hospitals in Sierra Leone were located in the western area (CSO, 1977). In such a situation certain well-placed individuals are able to maximize access to and utility of these vital resources and some complete an inter-generational transfer from farming to non-farming, urban-based activities. It is argued that in relation to the data presented in this study high rates of outmigration, rather than being caused by 'population pressure' or representing 'individual responses to key economic signals', represent the results of such rational decision-making processes.

4:8 The Consequences of rural outmigration

One of the immediate consequences of rural outmigration of the type and degree noted thus far is that it creates a labour supply problem for peasant farming. It has already been argued that part of the reason for the variable spatial impact of the project derives from variation in the availability of agricultural manpower (15-39 years) to undertake labour intensive swamp development tasks as well as to supply large recurrent labour needs (see tables 4:1 7and 4:1 8).

Labour shortage problems dominated both project and non-project farmers' accounts of the changes in their land use practices and farm size. In a study of the pattern of agricultural labour migration in villages of the Tonkolili district (adjacent to the project area with some of the chiefdoms adjoining to the South-eastern part of the project area), Blair (1977) noted that 'in all, 22.1% of males in the age group 10-39 years were found to be absent from their village at the time of the survey'. Even much higher rates of outmigration have been noted for project chiefdoms, which brings into question Berg's (1965) enthusiastic conclusion on West African migration that:

> there is little to be gained, and much to be lost, by the village community if migration is restrained.

Such assessment relies on the assumption that migration is seasonal in character. Analysis of inter-censal population changes and discussion with household heads suggest that to the contrary, rural outmigration has assumed a permanent character, although migrants do return occasionally to visit and/or participate in cultural events (see chapter 5 for illustration). For example, Blair found that only c. 13% of the absentees recorded had ever revisited their home villages for periods of between one week and 4 months. Over 35% of all such visits lasted for only one week or less and generally coincided with the so-called 'slack season' in peasant agriculture (immediately after harvest, when food and festivities are widespread).

The agricultural effect of outmigration is more sharply focused when the labour requirements of the male-dominated farm tasks are considered, as it is this type of labour that is most involved in the movement. Figures from a 1977 feasibility study for developing inland valley swamps both within and outside the IADP area suggest that the average farm household could provide 92 days of labour per month (GDI,1973). Working with more recent labour input data collected by the project, other independent researchers and

the author, Karimu and Richards (1980) have argued that the typical family are regularly capable of contributing 60 days of work per month, rising to about 80 in especially busy months (and this would call for a severe cut back on 'leisure'). In this light the German Development Institute Survey (GDI) figures would seem over-optimistic, partly because their researchers failed to make the critical distinction between full-time farm workers on the one hand and off-farm employed members of the household. In any case the critical point is that GDI results show that an average houshold would need a full two months alone to complete the male tasks of brushing and clearing upland farms of an average size of 4 acres [1] (c. 1.62 ha). Thus selective male outmigration and therefore less male labour to perform these tasks would imply a sharp reduction in potential aggregate output.

A further agricultural consequence of outmigration is that it tends to reinforce the gap between local food production and consumption. Using official estimates of upland productivity, the average 4 acres (c. 1.62 ha) suggested by the GDI study would only produce 60 bushels (about 3,600lbs.) per annum. Thus opportunities for surplus rice production, given the available labour supply, appear limited. It is important to note that these estimates do not appear to take account of the amount of rice remitted to urban kinsfolk by rural households. Such remittances and other effects of outmigration will be examined below.

4:9 Rural-Urban remittances

In recent years there has been a growth of interest amongst researchers concerning the role of remittances in the development process. The widespread occurrence of rural-urban migration has created curiosity amongst academics as to what extent remittances 'represent a significant means for removing the supply constraint for improved productivity in agriculture' in African communities experienceing rural-urban migration (Caldwell, 1969; Johnson & Whitelaw, 1974; Lipton, 1976; Long, 1968; Rempel and Lobdell, 1977;

1- Average household in the GDI study is defined as having 12.2 persons, with all adults assumed to be farmers. '4 acres' of upland is assumed to be adequate to supply the annual rice need of such a group.

Stark, 1976, also see Rempel and Lobdell, 1978 for a summary of the African data on this issue).

In a recent literature review on remittances in the Third World, Rempel and Lobdell (1978) concluded that the practice of remitting funds is predominantly an African phenomenon, although evident in other areas. The general feature of all these studies is a one-sided concentration on urban-rural remittances and the implicit assumption that a reverse flow of resources is non-existent, or where it occurs, may prove to be insignificant. Thus Stark (1980) argues that remittances act as 'catalysts' without which technical transformation in rural areas may be slowed down as available resources would likely be diverted to other 'pressing areas'.

In this section, the exphasis will be on flows in the opposite direction, i.e. on evidence for remittance by rural households to urban kin. As indicated earlier it will be argued that rural-urban flows consitute:

(a) a continuing commitment and;
(b) that such remittances can better be understood as part of an overall process of transformation being experienced by rural families. i.e. they are an investment in an inter-generational transformation process.

Remittances vary both spatially and with respect to project and non-project farmers. The reasons will be explored.

Given the time and resources available for this study there was little opportunity to collect systematic evidence on the flows, if any, of resources from urban to rural areas in order to arrive at a firm conclusion on the actual 'balance sheet' of migration in the study area. Thus, like the other studies referred to above, this one suffers a similar deficiency of concentrating on one end of the spectrum but these data do, however, offer opportunities for the beginning of comparative analysis concerning the remittance process.

The data here relate to the remittance of rice by sample households to urban kin during the 12 month period preceding the survey. It is, however, important to note that considerable amounts of other vital foodstuffs such as Cassava (Manihot spp), Yams (Dioscorea alata and Dioscorea esculentum), Sweet potatoes (Ipomoea batatas), corn (Zea mays), Coco-yams (Xanthosoma sagittifolium)and a number of vegetables such as Krain Krain

(Corchorus olitorius) and cassava leaves are regularly remitted to urban kin. This is so especially during festive seasons when urban residents pay short visits to their home areas and usually return with several sackfuls of such foodstuffs in addition to rice. However, the investigation was limited to rice for two main reasons:

(i) being the staple food crop, all farmers in the study villages produce rice and rice is generally an important feature of 'social exchange' in Sierra Leone;

(ii) rice remittance, by contrast to the other crops above, tends to occur in easily measurable amounts. Hence it is easier in a 'recall' situation to obtain reasonably accurate quantitative estimates in local units.

Table 4:11 summarizes data on family rice remittance to urban residents. In table 4:12 Project and non-project sample households are contrasted in terms of degree of involvement in remitting rice, volume of rice remitted, size of urban group supported and the spatial pattern of remittance. Fig. 4:2 summarizes the pattern of destination of remittance for project and non-project households in the study area.

As noted above the literature on the role of remittances in rural development in Africa is dominated by the notion that 'without question . . . . rural families derive substantial benefit from remittances received' from urban residents (Rempel & Lobdell, 1978: 329). Such an argument would appear to suggest that subsistence farming is simply a static survival from an earlier stage in the development process i.e. rural families of today do not make significant contributions to the process of modernization in the urban sector . Recent analysis of African agricultural systems appear to suggest that rural societies can and do make a dynamic contribution to the modernization process (c.f. Richards, 1977; Atteh, 1980; Johnny, 1979, Philips, 1980; Karimu and Richards, 1980) and the data on rice remittance would appear to support the latter view.

Table 4:11 shows that about 80% of sample farmers reported rice remittance to support urban residents from their households. Of the 92 households that reported rice remittance a total of 185 urban residents were estimated to be supported. The rice remittance data suggests that an average of three bushels of milled rice is sent direct to urban kin, outside of any market exchanges. This implies circa 2.3 persons supported in urban centres per rural household through such remittance i.e. for Sierra Leone as a whole, this would be equivalent to c. 300,000 rural families supporting c. 7000 00 urban residents. The average amount of rice sent is equivalent to 10% of the rice needs of each individual supported. Rice remittances on this scale for the country as a whole would 'reproduce' the equivalent of

Table 4:11 Rice remittance to Urban residents by Sample households.

	Proportion of sample farmers remitting rice	Number of Urban residents supported	Total number of reported rice remittances (in bushels)	Destination of rice remittances (in bushels)				
				Freetown	Diamond areas	Regional centres	Local centres	Others
BUMBAN Project Farmers	14/19	41	77	54	19	0	4	0
Non-project Farmers	15/18	32	32	23	5	2	2	0
Gbendembu Project farmers	16/18	30	48.5	28	3.5	12	3	2
Non-project Farmers	15/19	21	30	18	1	2	9	0
Matotoka Project Farmers	15/19	27	36.5	4	5	2	19	6.5
Non-project	17/19	34	34	0.5	7	6.5	20	0
TOTAL	92/112 83%	185 (2.32 persons per rural family)+	258 (1.4 bushels per capital)*	127.5 (49%)	40.5 (16%)	24.5 (9%)	57 (22%)	8.5 (3%)

Source: Field Survey, 1979

*Equivalent to 28 kg milled rice per urban resident supported.

+ On the basis of 2.32 persons urban residents supported by rice remittances per family then, for the whole country, c. 300,000 rural families would support c.700 000 urban residents, providing 10% of their rice needs.

Table 4:12 Reinvestment of 'profits' from rice farming in supporting urban residents: Project and Non Project farmers compared.

				Destination of rice remittances (in bushels)				
	Proportion of sample remitting rice	No. of urban residents supported	Bushels of rice supplied	Freetown	Kono	Regional centres	Local centres	Other (eg Liberia)
Project Farmers	45/55	98	162	86 (53%)	27.5 (17%)	14 (9%)	26 (16%)	8.5 (5%)
Non-project ect farmers	47/57	87	96	41.5 (43%)	13 (14%)	10.5 (11%)	31 (32%)	0 (0%)

Source: Field Survey, 1979

70,000 extra urban migrants, therefore.

Table 4:11 further suggests that, overall, project farmers tend to remit more rice than their non-project counterparts. For example project farmers account for about 63% of the total reported remittance and also account for about 53% of the total number of urban residents thus supported. It is significant to note that Matotoka farmers, project and non-project, not only remit less rice (together accounting for only c. 27% of total remittances) but also show much similarity in terms of volume of remittance. By constrast Bumban and Gebendembu project farmers remit more rice than the non-project farmers. Thus the significant difference appears to be that between both Matotoka samples and other non-project farmers on the one hand, and the Bumbàn and Gbendembu project farmers on the other hand (c.f. Johnson & Whitelaw, 1974; Dorjahn, 1971). This evidence is consistent with the interpretation here and elsewhere that IADP credit appears to assist, or at least correlates with, farmers in an advanced stage in the transformation process from agricultural to non-agricultural, merchant capital dominated urban activities. Recalling the rural outmigration ananlysis, it was shown that labour supply problems tend to be more accute in Bumban and Gbendembu partly as a result of a historically long-established process of transfer of human and capital resources into non-farming activities (see section4:4). It is no surprise therefore that Bumban with a historically more prosperous agriculture (c.f. Fyle, 1979 a&b) is also the greatest 'exporter' of rice via migrant networks (Table 4:11).

The bulk of the remittance is directed towards Freetown and the primacy of Freetown as a destination for rural rice remittance is clearly illustrated in Fig 4:2. Local centres (example chiefdom headquarters), the diamond mining districts of Kono and Kenema, regional centres (e.g. district towns like Makeni and Magburaka)and others receive some remittance.

Table 4:12 shows disaggregation of remittance by sample strata and by destination of remittance. Consistent with their greater involvement in resource transfer to urban areas, project farmers as a group direct more remittance to Freetown and Kono than non-project farmers. Significantly also, the greater local orientation of non-project farmers in the sample villages is reflected in their chanelling of more rice to local centres than project farmers (see table 4:12 and Fig 4:3 a & b)

Unfortunately, fieldwork provided little opportunity to obtain reliable data on urban to rural flow of resources which might have allowed a rigorous evaluation of Stark's (1976) contention that remittances are a key element in the removal of existing constraints to

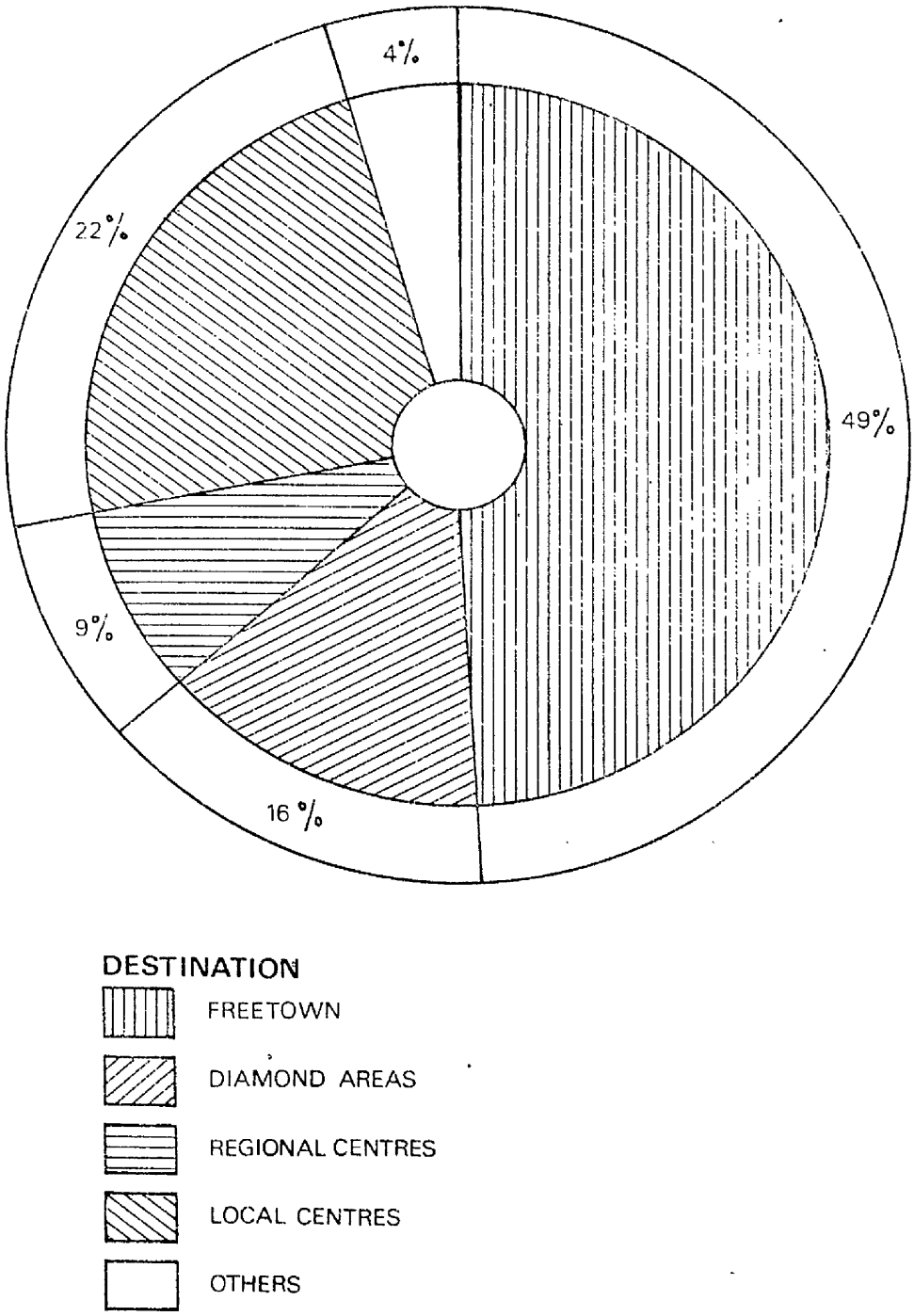

Fig 4:2 Destination of rice remitted by sample farmers, (Project and non project).

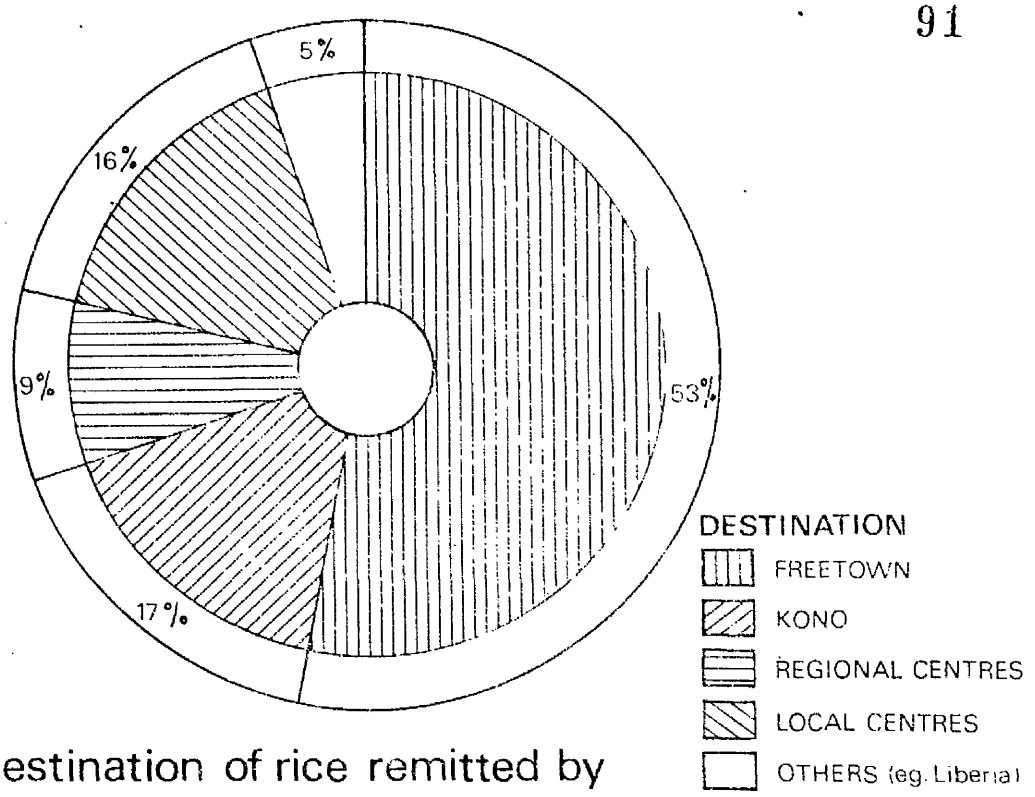

Fig 4:3a The destination of rice remitted by sample project farmers in Study villages.

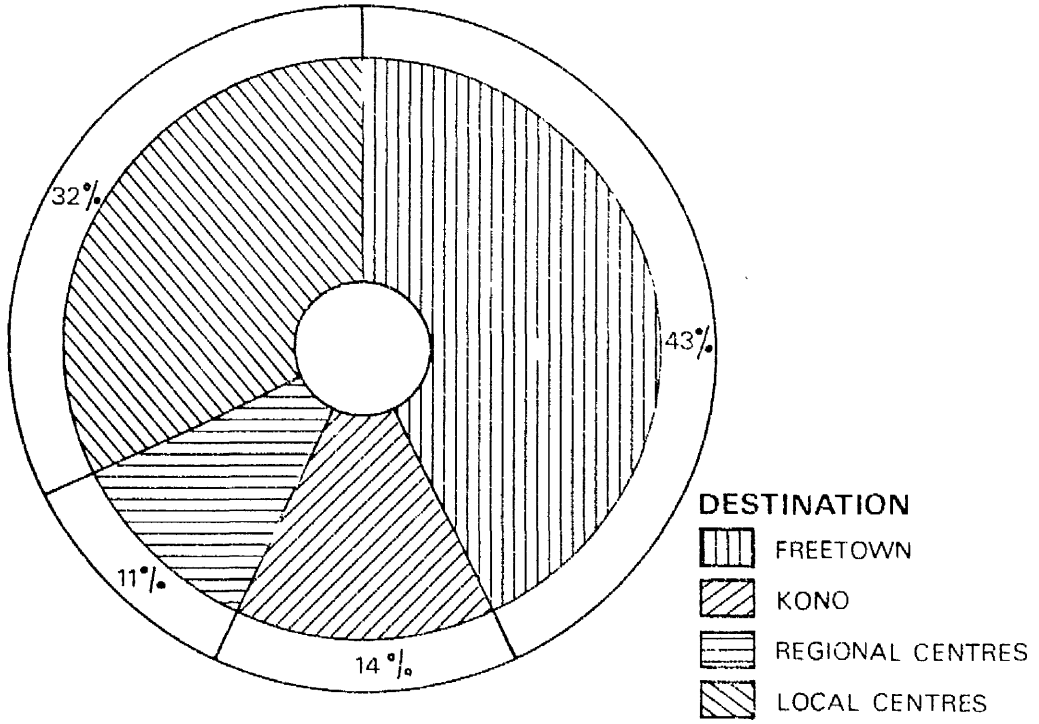

Fig 4:3b The destination of rice remitted by sample non project farmers in Study villages.

productivity increases in agriculture. There are, however, some relevant data from a study of the regional impact of the Freetown-Kono road in selected villages in Tonkolili district (adjacent to our study area) which provide some information on the typical size of urban-rural remittance (Blair, 1975). This study showed that of 'the absent migrants, 80% had never sent home any money' or any other material good. Analysis of data collected on urban-rural remittance in Blair's (1975) study suggests an average of Le. 10.00 per annum sent to rural families. It was not stated what proprtion of the annual urban wage this figure represents. A bushel of rice was worth, on average c. 5 Leones in 1975. Thus the cost of rice remittances is barely covered by urban-rural cash remittances. This takes no account of non-rice food remittances. If Blair's figures are typical then the net benefit must be assumed to rest with the migrant. In this case - since there is no compulsion on rural producers to remit food to urban kin - it must be presumed they see some long term 'family' advantage in doing so. It should be noted that the rice remittance figure is almost certainly an underestimate because it does not take into account those farmers who were unable to estimate the amount, even though reporting several rice remittances per year - (especially when children are returning to the urban areas after holdiays).

In the context of the debate implied in Stark (1976), among others , it is perhaps critical to note not only the magnitude of remittances in judging its rural development impact but also their timing. For example money remitted to rural relations at the height of a severe 'hungry season' will often be spent on food rather than on technological improvement. Similarly money remitted to coincide with secret society activities, vital for rural social reporduction is unlikely to be directly invested in agricultural technology. Thus the weakness of Stark's argument concerning the rural development impact of urban-rural remittance lies, in my view, in its failure to consider the interrelated issues of timing of the remittance and the use made of such remittances by rural household heads. These two are intricately related to the overall structure of rural society and need more analytical attention than many have hitherto supposed. In this respect the conclusion reached by Connell et al (1975 : 113) in relation to Indian village studies is instructive:

> The low level of investment potential that generates migration also leads to the failure to use remittances for investment in agriculture. Instead many households may use remittances to invest in education, thereby to stimulate further migration by diverting cash away from the village and deepen the investment slump (Ibid: 113).

In sum, the evidence on food remittances suggests that in a country with heavy rural outmigration it is the 'subsistence' producer who bears much of the cost of producing and

reproducing the urban labour force. Discussion with farmers established that this is a continuing commitment and that rice remittances are simply a part of this process. It is difficult in the context of my observations of sample households to see much evidence for benefits accruing to agriculture via urban-rural remittances. This is not, however, to imply that urban residents in African communities do not periodically remit money and/or other resources to rural kin or that the rural population is 'exploited' by outmigration (clearly this is not so or parents would not aim to create the right conditions for it to take place in the first instance). Rather than represent 'exploitation' of the countryside by the city as suggested by Lipton (1976) and Levi (1976), the evidence for rice remittances presented here is better understood as part of the process through which ce rtain categories of people within rural communities attempt ot manipulate existing contradictions in their favour. Lipton's 'urban bias' model appears inadequate for understanding such processes because it fails to take into account the fact that rural societies (as well as urban) are highly differentiated. Consequently, the capacity to maximize access to the urban sector differs considerably from household to household. Thus Project farmers' (in all three villages) overall commitment to an increasing participation in the urban sector is reflected in their disproportionate support of urban kin.

Local self-help schemes in many African situations frequently generate significant social pressure on educated migrants to make meaningful contribution to their 'home' society. The present writer is thus under constant pressure by his village development committee to make such contributions. Thus as noted by Bradley et al (1977) even international migrant status is not sufficient to diminish certain kinds of social pressure or sever the links between migrant and 'home'. In this way periodic urban-rural remittance may serve to expand the available village stock of capital for social development. The problem lies in ensuring that 'social' becomes 'agricultural'.

4:10 The relationship between selected variables and farm labour supply

The following analyses are based on the application of non-parametric statistical techniques to some of the field data. The results of a preliminary SPSS 'condescriptive' analysis of the data set showed highly skewed distributional characteristics for most of the variables. Since the assumption of 'normality' required for parametric analysis was not met in the main by the data set, non-parametric techniques were preferred for statistical analyses. No 'causality' is implied by the results presented. The aim is to clarify and systematize the nature and direction of the association between variables selected. Some of the variables are conceptually very closely dependent upon one another and hence no formal treatment in terms of dependent and independent variables is attempted. Selection of variables for this analysis is based on field discussion with farmers relating to the factors considered important in farm decision-making (and hence are likely to affect decisions about innovation adoption or non-adoption). The initial research hypothesis assumed no significant difference between project and non project farmers in terms of the association between the selected variables. The list of variables entered into the correlation analyses is appended to tables 4:13 a - i.

For both project and non-project households Table 4:13a shows a consistently significant association between labour input and the size of farm cultivated ($\alpha = 0.05$). In all sample villages the association appears stronger with non-project than with project households (see Table 4:13a) This result appears to confirm the point made elsewhere (see Section 4:11) that farm labour supply is a critical factor in the organization and implementation of farm work in the study area. The labour force partly determines the organization of the farm in terms of what crops or combination of crops are grown, by creating a demand for these at the level of the farm household consumption needs. Similarly, the labour force (within the household as well as extra-household sources) can reasonably be supposed to help determine the limits of the area cultivated by supplying the work force for the various tasks on the farm. The stronger coefficients noted for non-project households partly reflects their greater commitment to full-time farming (more upland rice farming). Upland farming in the study area appears to require the mobilization of a large labour force (such as Kompins can afford) for time-sensitive peak period operations like brushing, ploughing and harvesting. This point is emphatically made in Table 4:14e where about 70% of the total labour utilized on non-project upland farms

TABLE 4:13a-c Rank order correlation analyses of selected variables for sample farmers and villages

Table 4:13a

Locality	Project	Non-Project
Bumban	0.5523	0.8127
Gbendembu	0.7329	0.9303
Matotoka	0.70291	0.9832

Table 4:13b

Locality	Project	Non-Project
Bumban	0.1329	0.6919
Gbendembu	0.6594	0.9179
Matotoka	0.5593	0.9475

Table 4:13d

Locality	Project	Non-Project
Bumban	0.6466	0.4699
Gbendembu	0.6060	0.4524
Matotoka	0.2970	0.4401

Table 4:13d

Locality	Project	Non-project
Bumban	0.5281	0.8949
Gbendembu	0.8587	0.9864
Matotoka	0.8300	0.9641

Table: 4:13e

Locality	Project	Non-Project
Bumban	0.5263	0.2578
Gbendembu	0.8155	0.1795
Matotoka	0.2166	- 0.1636

Table: 4:13f

Locality	Project	Non-Project
Bumban	0.0323	0.2580
Gbendembu	-0.1520	0.3355
Matotoka	0.1320	- 0.7296

Table 4:13g

Locality	Project	Non-Project
Bumban	0.5851	0.3314
Gbendembu	0.6549	0.4147
Matotoka	0.3135	0.4719

Table 4:13h

Locality	Project	Non-Project
Bumban	0.3891	-0.3193
Gbendembu	0.4306	-0.1020
Matotoka	0.0559	-0.0874

Table 4:13i

Locality	Project	Non-Project
Bumban	0.1587	0.0209
Gbendembu	0.0240	0.2810
Matotoka	0.4076	0.2322

Explanation of tables 4:13a-i above

Table A - Correlation coefficients for total Labour Input and Farm Size

Table B - Correlation coefficients for Total Labour Input and Rice Output

Explanation of tables 4:13a-i contd.

Table c - Correlation coefficients for rice output and total value of rice sold

Table D - Correlation coefficients for farm size and rice output

Table E - Correlation coefficients for rice output and total value of marketed produce

Table F - Correlation coefficients for household size and rice sold

Table G - Correlation coefficients for farm size and value of rice sold

Table H - Correlation coefficients for livestock sales and total labour input

Table I - Correlation coefficient for livestock sales and household size

Source: Field Survey, 1979

was derived from Kompin labour groups[1]. By contrast project farmers are, on balance, more concerned with swamp cultivation than upland cultivation (c.f. Karimu and Richards, 1980: 38). For example, 54% of all farmers interviewed (n=111) cultivated swamps exclusively and nearly two thirds of these were project farmers. The area cultivated by project swamp farmers is partly a function of project management decision and partly a reflection of 'family demographic pressures'. Project management has decided a maximum '3 acre ceiling' for swamp development and this was explained as part of the measures designed to ensure that the benefits of IADP reached a significant proportion of the rural population. Thus it does not seem to be directly related to labour supply issues. But as noted elsewhere in this chapter some families have grown larger in size than others. Consequently in Bumban and Gbendembu, intra-lineage competition for the use of scarce swamp resources has led to the project recruiting farmers with less than the official '3 acre swamp' land requirement. The results in Table 4:13a appear to be

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1- Forthcoming in Johnny, Karimu and Richards, 1981, where farming preferences shown by different groups of farmers is argued to relate partly to the differing ability to mobilize such extra household labour when it is crucially necessary.

corroborated by independent analysis undertaken by the GDI (1973).[1]

Table 4:13b summarizes the association between labour input and rice output from sample farms. It is important to note that rice output figures were particularly low because such figures are 'net' of on-farm consumption during, for example, harvesting (which may be quite substantial as the process of rice harvesting, as noted by Little, is a social festival in itself) and gifts made to friends and/or contributions for 'welcoming' local politicians. Again the relationship is consistently stronger for non-project farmers in all study villages. The result for Bumban project farmer sample is moderate compared to similar groups of farmers in Matotoka and Gbendembu. This appears to be related to the idea that in Bumban most of the project farmers had 'developed' their swamps along IADP lines through an earlier involvement in an Italian-funded swamp programme. Thus it would seem that rice output is here more related to this earlier adoption of improved techniques than with labour input per se for the period covered in the survey (1977/78 farming season). The lesser labour intensive nature of Bumban swamps is further reinforced by evidence in Table 4:17, showing that Bumban project swamp labour needs (per hectare) are only c.52% and 45% those of Gbendembu and Matotoka project swamps respectively. In addition many Bumban farmers stressed the point that the physical setting of swampland in the Bumban Valley facilitates the process of natural fertilization via the erosion of nutrients downslopes into the splendid basin which constitutes the local swamp farm setting.

The material presented in table 4:13c relates to Spearman rank-order correlation analysis of data on rice output and the total cash value derived from rice sales reported by sample household heads. The result seems to imply a distinction between Matotoka project farmers on the one hand (with insignificant r_s value) and Bumaban and Gbendembu project farmers on the other hand. It would appear from this evidence that the more commercially-oriented group of farmers in the latter settlements market a greater proportion of their rice output. This result is consistent with the point noted elsewhere that project farmers, on the whole, sell more rice than non-project farmers. The fact that this phenomenon is more significant with Project farmers in Bumban and Gbendembu than with their counterparts in Matotoka

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1 - In an analysis of the relative signific ance of different sources of labour used by farmers in the IADP area, the GDI (1973) results show that about 25% of the variance in labour input on upland farms is attributed to 'gang' or Kompin labour.

is not unexpected. Project farmers in the former villages, it is suggested, are more advanced in the transition from agriculture to trading and urban-based sectors of the economy. Being richer in material terms this group of farmers can afford to sell most of their rice output and then reinvest any potential profits into non-agricultural activities such as education of their children. Project farmers in both Bumban and Gbendembu suggested that they are engaged in activities such as trading or transport because 'farm work does not pay like business'[1]. It would seem, therefore, that IADP credit (as noted in chapter 6) is reaching farmers with substantial interests outside the farming sector. The same point is reinforced in Table 4:13d.

The greater degree of off-farm involvement of project farmers in Bumban and Gbendembu is made apparent in Table 4:13e which analyses the association between rice output and the total cash value of marketed produce. Again the result is consistent with other findings that project households are more involved in trading than non-project farmers. Because the latter group are more dependent on their farms a substantial proportion of their rice output is used for subsistence. Trader-farmers sell more rice because they have cash resources to recover from any miscalculation if food runs short during the 'hungry season'. This tends to contradict the findings of other surveys which have concluded that marketable rice surpluses are minimal in this area (cf. GDI, 1973). No significant association is found between household size and rice sales in table 4:13f. It should be apparent from the argument so far that any simple relationship between population numbers and 'surplus' is an unrealistic expectation.

Tables 4:13g and 4:13h reinforce the argument presented in relation to table 4:13e above. Table 4:13h is especially interesting because it shows no significant relationship between the two variables involved i.e. cash value from livestock dealings and total labour input. The consistently low negative result for non-project households relates to the fact that these farmers,

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1 - In informal interview sessions with project farmers in Gbendembu the same phrase was used in answer to the question 'why do you not concentrate on farming alone?'

as a group, own much fewer cattle and hence realize similarly low cash incomes from such source (see Table 6:4). Project farmers by contrast, especially in Bumban and Gbendembu, own substantial numbers of livestock (see section 6:2). The implication of the evidence on the pattern of livestock ownership (see Table 6:4) would be that such farmers could afford to hire labour from livestock sales if necessary. Neverthless any correlation between labour supply and income derived from livestock dealings appears to be very weak even for Project farmers. Local opinion (as confirmed by table 6:5) was that most of the money derived from livestock sales by project farmers is reinvested either in the education of farmers' children or in engaging in trade. Little or none of the money appears to be ploughed back into expanded agricultural production, thus it is not surprising that the two variables here display little relationship. The lesser importance of livestock ownership in Matotoka is clearly seen in table 4:13h.

In general, however, the selected variables reveal some significant contrasts between the two sample strata. The tables presented continue to emphasise the vital role of labour supply in local farming systems. Also the statistical analyses reinforce the view that project farmers are more oriented towards non-agricultural enterprises than non-project farmers. The following section turns toward a closer examination of labour as a vital resource in the farming system, and how it is organized.

4:11 The Social organization of labour in the Study area

The organization of labour for peasant farming in Africa has been widely commented upon as a critical issue in the production process (Jackson, 1976, Finnegan, 1965; Norman, 1969; O'Laughlin, 1973; Blair, 1977 . Also, see Richards and Sharpe (1981) for a recent critique of conventional approaches to the study of labour cooperatives and work groups). The analysis of work groups in African farming systems has been dominated by what Firth (1979) has termed 'the ideology of reciprocity' (cf. O'Laughlin, 1973. Burnham, 1980) i.e. the notion that the principle of reciprocity that appears to characterize these labour exchange systems acts to prevent exploitation. But, as will be shown in the following pages, work groups do provide opportunities for certain well-placed members of the village community to extract surplus labour necessary for the maintenance of customary relations of dominance. It is argued here that the characterization of labour cooperatives as mechanisms for preventing the emergence of exploitative relations of production in supposedly 'pre-capitalist' social formations reflects an uncritical stance on the part of researchers As noted by Richards and Sharpe (1981)'work' in rural communities is as much about the complex process of negotiation and political transaction leading to the setting up of labour relations as it is about physical production.

Labour 'Kompins' ('companies') as defined in the methodology chapter constitute an important feature of the agricultural production process in the study area. There appear to have been several types in the past, especially among the Temne, each one relating to a specific farming task either on uplands or in swamps. Thus in Matotoka local names recalled by farmers (in chance discussions) included ebereh, an association for brushing, ewo ɔ-neh or a land clearing work group; and Kabɔthɔ Kafonkra - a weeding work group, usually organized by women farmers. The generic term used for labour work groups among the Temne is Kabɔthɔ, the equivalent in Limba is Kune. It is significant to note that in all communities visited the Krio rendering 'Kompin' is the popular term used by farmers. Krio has become a lingua franca throughout Sierra Leone and the popularity of the term 'Kompin' reflects the fact that this type of labour organization is a 'modern' institution, adapted to an economy in which relations of production are dominated by trader capital. 'Company' labour should not be seen as a survival from pre-capitalist 'traditional' society.

Further, it is important to realize that none of the local terms used to describe work

groups imply 'kinship' as the basis for cooperation, or as part of the rationale for organizing such groups. Both Donald (1967) and Jackson (1976), among others, have implied that kinship ties are important considerations in labour group foramtion. It is not intended to imply that people in the study area do not recognize 'kinship' as such but that such recognition does not necessarily carry any significance for agricultural labour cooperation. This runs counter to a prevailing assumption in much of the anthropological literature (cf. Sahlins, 1965; Firth, 1979; Jackson, 1976; O'Laughlin, 1973). Bloch (1973; 1975), working among the Merina of Malagasy Republic, found that contrary to the 'ideal cooperativeness of kinsmen' and the lesser reliability of non-kinsmen in agricultural work organization implied by Sahlins (1965) and others, work groups here always included more non-kinsmen than would be suggested by kinship theory. As in Bloch's study, work groups in the study area exist principally to meet the need for a large pool of workers for especially critical and time constrained farming operations i.e. they arise directly out of the nature of the work and the general structure of rural political economy in northern Sierra Leone. It is not neccessary to posit the prior existence of the family as a domestic unit in which principles of family organization are then invoked in a secondary or extended sphere of activity to cover 'work organization'.

When asked to rank the various sources of labour in order of importance, 40% of all farmers interviewed in Bumban and Matotoka rated family labour as the most important. In Gbendembu 43% of the sample gave a similar rating to family labour. 'Kompin' labour was the most important for c. 25% of the sample and ordinary hired labour turned out to be mos t important for only 16% of the sample (many of these belonged to the Gbendembu project sample group). The proportion of total labour used on sample farms in the year preceding the survey suggests that Kompin labour sources are more important in the farming system than can be supposed from the ranked data referred to above. According to material in Tables 4:14a to 4:14f from about 1/3 to over 2/3 of total farm labour requirement is provided by 'companies' for all households sampled. This compares with non-'company' sources providing between c. 29% and c. 68% of total farm labour in sample households. It is significant to note that 'company' labour contributions appear consistently high (over 50%) for 5 out of the 6 data set presented in tables 4:14a-f. By contrast non-'company' labour exceeds half the total labour input in only 1 out of the 6 data set. In geneal, then, farmers consider Kompin labour vital to their enterprises.

Labour groups in these villages appear to have their origin in the work groups formed when the young men in a household are insufficient in numbers to cope with operations which require a large body of disciplined workers for a critical operation. Thus for example labour groups would be necessary to avert crop failures arising from late transplanting of rice seedlings, especially where the cleared area is extensive. It is not surprising therefore that work groups are found to be particularly important with respect to time-constrained tasks such as brushing, ploughing, transplanting, weeding and harvesting. Kompins ranged in size from only about 5 people to as many as 40 persons - mostly in the 15-39 age range. Sometimes, Kompin leaders said, work groups could be formed on a regular footing for several years or they might be dissolved at the end of the cropping season in which they were formed, depending on the management capacity of the leader.

The so-called principle of 'generalized reciprocity' (cf. Sahlins 1965; Firth, 1979; Burnham, 1980), implying non-exploitative relations in work group situations, blurs the extent to which real exploitation is still possible even with labour groups. The evidence from field observation suggests that in constituting a Kompin a 'cooperative' rhetoric is used which effectively disguises ways in which the village political hierarchy extracts surplus value from poorer, more vulnerable farmers. When consideration is paid not just to 'amounts' of work exchanged but to the varying 'strategic' importance of these work amounts in chronological terms work groups may embody what Cliffe (1976: 114) has termed a series of 'exchange of quasi-equivalents, behind which was (is) hidden the exchange of a smaller for a larger quantity of labour'. It is not hours worked (as frequently supposed by researchers) but the timeliness or otherwise of the work and who the ultimate recipient of the work is that is significant.

It has been shown that, across the sample, project households tend to be larger overall, contain more wives and by implication more marriageable daughters. One of the expectations of young men, who receive wives from such household heads, is that they will be obliged to assist a potential 'father-in-law' or 'brother-in-law'. In Matotoka, a sample project farmer, a local chief, explained that in 1978 he asked one of his 'in-laws' to help with puddling his IADP swamp (this operation alone accounts for nearly 20% of total labour input reported by project farmers - see Tables 4:14a - f) [1]. In order not to weaken a crucial

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1 - Informal interview with project sample farmer in Matotoka in field note-book A4. Interview date - 6/7/79.

relationship with the father-in-law the young man was persuaded to assign his own days share of Kompin labour (earned by his participation in the group) to the informant in question. This involved 50 young men drawn from Matotoka and nearby Ro Polo village. Thus through being in the position of 'wife giver' our informant was able to gain access to a pool of labour from which otherwise (not being a member of the Kompin) he was, in theory, excluded. It is important to note that puddling is not only labour-intensive but, as frequently observed by farmers, if done badly, may mean the need for much more than average weeding labour. Kompin labour is highly disciplined and this guarantees the work is done well, and on time (since this is a labour bottleneck and delay leads to a rapid accumulation of further difficulties). In this instance the young man effectively 'lost' his 'share' of company labour due to him, though to the superficial observer the membership of a labour cooperative guaranteed reciprocity. Perhaps even more critical is the cumulative effect of such 'transactions' on less 'wealthy' farmers for the rest of the growing season since the loss of puddling labour is not just the loss of 50 man-days, but loss of efficiency at weeding time as well.

The principle of rotation of work is seen by Kompin members as essential to the survival of the institution. The force of this apparently 'egalitarian principle' is to exclude certain kinds of farmers from membership. Members, or potential members, are often placed in a contradictory position by the irreconcileable logics of the rotational principle interacting (and conflicting) with the need to fulfil customary marital obligations. The resulting tension puts young farmers in a position where they can be exploited by outside interests (as just exemplified) and work groups then prove less 'reciprocal' in effect than is generally supposed (see Richards & Sharpe, 1981 for further detailed accounts of this process in northern Nigerian communities). Not everyone finds the Kompin easy to cope with. The following question was posed to farmers to elicit their own evaluations of Kompin labour: 'Why is it that some farmers in this village do not belong to cooperative work groups?' Explanations provided invariably hinged upon two factors:

(i) Household size, especially in terms of young adults who may be 'contributed' to a Kompin work force;

(ii) the need for Kompin work to follow a strict rotational order.

It was explained that for smaller households joining a larger Kompin may be disadvantageous in the sense that once the group works on your farm you are bound to work on other members' farms. This may well mean a good two weeks of continuous labouring on other members'

farms, depending on size of group. Meanwhile, because of limited household labour resources there may not be enough hands to continue normal farm work, or indeed remedy incompetent work by some 'Kompin' workers. In these circumstances, therefore, larger ('wealthier') households are better able to capitalize on Kompin work. They have the members to work for the Kompin full-time, but others able to stay behind and carry on with follow-up labour when the Kompin moves on. It is even possible for such households to nominate several of their younger members to work groups as a way of securing a multiple portion of Kompin labour, thus ensuring the maximum chance of success even with the most risky time-constrained activities (eg. planting).

Similar considerations are at work in relation to women's Kompins. Recalling the earlier demographic analysis of sample households (see Table 4:2) project household heads appear to have more wives than non-project households. In the villages generally a man's number of wives is considered an important criterion for assessing his wealth status. Households with more wives are better placed for mobilizing Kompin labour for critical operations like weeding and harvesting, by means of the nomination procedures noted above.

Priority in scheduling Kompin labour is another critical factor in which assymetries are sometimes apparent. There is some evidence (as already discussed) that local elites and money lenders bring pressure to bear on Kompin heads in order to get priority for their households in the work chronology. A large group is attractive in terms of the work it can achieve. But in large Kompins the point occupied by different members in the work schedule begins to assume major importance, since many operations may be 'too late' by the time an uninfluential members's turn comes round.

4:12 The Pattern of labour utilization in rice farming systems

Labour supply, it has been argued elsewhere, imposes a greater constraint on increasing agricultural output in the study area than land shortage. In this section, the relative importance of 'company' and non-company labour sources to different farmer groups will be examined. An attempt will be made to analyse the broader issues of off-farm economic involvements, local politics and the ability to control the means of production in relation to the preference shown for different farming systems by sample farmers. Particular attention will be paid to the point argued by Richards (1981) that the interests of different groups of farmers tend to be reinforced by different farming systems. Hence the

preference for swamp or upland rice farming in Northern Sierra Leone, it is argued, should be analysed within the framework of the group interests reflected by alternative farming systems.

Tables 4:14a to 4:14f summarize the pattern of labour use on sample farmers' farm in the study villages. These are based on farmer 'recalls' of labour input, by source -covering the 1978 farming season. Figs.4:4 to 4:9 illustrate the operational pattern of labour utilization on sample farms in 1978. Two main points emerge. [1]

(a) the importance of 'company' labour, and extra-household labour in general, for all types of rice farming systems. 'Company' labour accounts for between c. one third and c. two thirds of total labour inputs on rice farms in all the study villages;

(b) differences in the use of 'company' labour sources by farmers involved in different farming systems. Thus for example 'improved' swamp cultivation and 'traditional' upland farming appear to derive more than 50% of their labour from 'company' sources (see Tables 4:14a to 4:14f). This contrasts with local swamp cultivators (principally non-project farmers) who acquire less than one third of their total labour from such 'company' sources (cf. Tables 4:14f and 4:14 a,b,c,d,e). Use of extra-household labour resources appears to be related to the interests of three distinct groups of farmers. The first makes much use of 'company' labour for improved swamp cultivation, (see figs. 4:4 to 4:6); the second uses large amounts of 'company' labour for 'traditional' upland cultivation (see figs. 4:7 and 4:8); and the third smaller amounts of 'company' labour for swamp cultivation along local lines (see fig. 4:9).

Labour utilization profiles indicate considerable seasonal buching. Brushing, land preparation, trasplanting and harvesting appear to be the most labour intensive activities on upland farms. Even though the labour-intensive activities for local swamp cultivation correspond closely to those of 'improved' swamp farming, it is significant to note that labour demand appears less bunched in the former case.

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1 - Some of the closely related farming operations in the tables e.g. stumping, bunding and puddling are grouped together under a single category, land preparation, in order to simplify the diagrams.

Table 4:14a

Operational distribution of labour used in I.A.D.P. swamp rice production in Bumban (1978)

Operation	Brushing		Clearing		Stumping		Bunding		Puddling		Nursing		Fertilizing		Trans-planting		Weeding		Fencing		Harvesting		Total	
	Co	N/co	C6	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co
%source distribution	16.7	4.9	0	7.9	0.9	0	1.3	0.5	18.5	7.9	0	1.7	0	3.6	13.2	6.3	0.5	1.4	1.4	1.7	1.4	10.3	53.9	46.2
aggregated % distribution	21.6		7.9		0.9		1.8		26.4		1.7		3.6		19.5		1.9		3.1		11.7		100%	

Source: Field Survey, 1979

Co - 'Kompin' ('Company') labour

N/Co - Non 'Kompin' (Non 'Company') labour

Table: 4:14b Operational distribution of labour used in I.A.D.P. Swamp rice production by Gbendembu Project Farmers (1978)

Operation	Brushing		Clearing		Stumping		Bunding		Puddling		Nursing		Fertilizing		Trans-planting		Weeding		Fencing		Harvesting	Total
	C0	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co N/co	Co N/co
%source distribution	25.4	1.4	0.1	2.3	0.3	0.9	0.8	1.2	16.1	4.2	0	2.7	0	1.5	13.1	7.3	0.2	2.5	0	1.3	13.2 3.7	69.2 29.0
aggregated %distribution	26.8		2.4		1.2		2.0		20.3		2.7		1.5		20.4		2.7		1.3		16.9	100%

Source: Field Survey, 1979

Co - 'Kompin' ('Company') labour

N/co - Non 'Kompin' ('Company') labour

Table: 4:14c Operational distribution of labour used in I.A.D.P. swamp rice production by Matotoka Project farmers (1978)

Operation	Brushing		Clearing		Stumping		Bunding		Puddling		Nursing		Fertilizing		Trans-planting		Weeding		Fencing		Harvesting		Total	
	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co
%source distribution	11.4	1.2	0	7.4	6.5	3.2	0.9	3.0	9.1	1.8	0	2.5	0	0.8	15.8	1.8	0	0.8	1.5	5.8	24	2.2	69.3	29.7
aggregated % distribution	12.6		7.4		9.7		3.9		10.9		2.5		0.8		17.6		0.8		7.3		26.3		99%	

Source: Field Survey, 1979

Co - 'Kompin' ('Company') labour

N/Co - Non 'Kompin' ('Company') Labour

Table 4:14d Operational distribution of labour used in upland rice production by Bumban Non-Project Farmers (1978)

Operation	Brushing		Felling		Burning		Clearing		Ploughing		Broad casting		Weeding		Fencing		Harvesting	Total	
	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co N/co	Co	N/co
%source distribution	14.3	3.7	0.3	1.5	0.1	0.6	0.1	11.9	11.4	5.8	0.4	1.4	18.4	11.9	2.2	1.7	7.5 6.3	54.7	45.4
aggregated %distribution	18.5		1.9		0.7		12.0		17.2		1.8		30.3		3.9		13.8	100%	

Source: Field Survey, 1979

Co - 'Kompin' ('Company') labour

N/co - Non 'Kompin' ('Company') labour

Table: 4:14e Operational distribution of labour used in Upland rice production by Gbendembu Non-Project farmers (1978)

Operation	Brushing		Felling		Burning		Clearing		Ploughing		Broad-casting		Fertilizing		Weeding		Fencing		Harvesting		TOTAL	
	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co
&source distribution	18.0	2.1	3.3	2.6	0	0.7	2.4	5.8	17.5	2.5	0.3	0.6	0	0.1	13.0	8.0	0.8	3.1	15.3	3.7	70.6	29.2
aggregated %distribution	20.1		5.9		0.7		8.2		20.0		0.9		0,1		21.0		3.9		19.1		99.8%	

Source: Field Survey, 1979

Co - 'Kompin' ('Company') labour

N/co - Non 'Kompin' ('Company') labour

Table : 4:14f

Operational distribution of labour used in local swamp rice production by Matotoka non-Project farmers (1978)

Operation	Brushing		Clearing		Stumping		Bunding		Puddling		Nursing		Fertilizing		Trans planting		Weeding		Fencing		Harvesting		TOTAL	
	Co	N/co	Co	N/co	Co	N/co	Co	N/Co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co	Co	N/co
%source distribution	11.4	1.6	0.3	8.2	6.7	7.4	0	0.6	0.5	14.1	0	1.9	0	0.9	2.5	12.4	2.1	0.7	0	5.6	7.8	14.5	31.3	67.9
aggregated % distribution	13.0		8.5		14.1		0.6		14.6		1.9		0.9		14.9		2.8		5.6		22.3		99.2%	

Source: Field Survey, 1979

Co - 'Kompin' ('Company') labour

N/Co - Non- 'Kompin' ('Company') labour

Labour bottlenecks, in this case defined as labour requirements beyond the household's capacity to provide - are a feature of all three farming systems. Karimu and Richards (1980), and Richards (1981) have argued that harvest labour bottlenecks are not serious 'because when food is forthcoming so is labour'. Labour at harvest time can be 'paid' easily in kind (usually involving the farmer giving a portion of the daily harvest to the helper). On the other hand, the mid-season land preparation and transplanting bottlenecks on 'improved' swamps appear to be a much more serious constraint since they coincide with the period of pre-harvest 'hunger'. Elsewhere it was demonstrated that poorer farmers' indebtedness mainly arises as a result of short-term difficulties in the 'hungry season'. Since poor farmers become indebted for 'subsistence' reasons it is to be expected that they will not be able to afford to hire the extra labour needed to overcome the mid-season labour bottlenecks. Karimu and Richards (1980: 101) have suggested that an average family in the Northern Project area might need over 100 days of hired labour per year in addition to that needed for initial constructional work ('improved' swamp cultivation requires about 325 man days/ha for development, according to recent project planning estimates). Not only does the local system require less labour overall, therefore, but a further advantage, making it appear more attractive than the 'improved' system, is that the total farming year is shorter - thus the slack season 'gap' which opens up to provide an opportunity for non-agricultural employment is wider. Two additional advantages of local swamp cultivation over 'improved' swamp farming in terms of labour requirements may also be mentioned:

(i) local swamp cultivation aggravates the mid-season upland farm labour bottlenecks (especially for ploughing and weeding) less than the 'improved' system, and;
(ii) there is no fixed burden of development labour costs in local swamp systems.

Thus local swamp farming may be especially suitable for the farmer paying for labour out of dry season off-farm income, since not only is the peak requirement smaller, but the total length of the cultivation season is shorter. This characteristic maximizes scope for non-farm activities for such farmers (cf. Karimu and Richards, 1980: 98-105).

The analysis thus far suggests that in terms of opportunities for using alternative sources of labour and different farming systems, the critical distinction is less to do with that between project and non-project farmers in the survey villages and more to do with the kinds of decisions which different farmers have to make in order to reinforce their interest.

One of the issues explored in Johnny's (1979) study of upland rice farming systems in

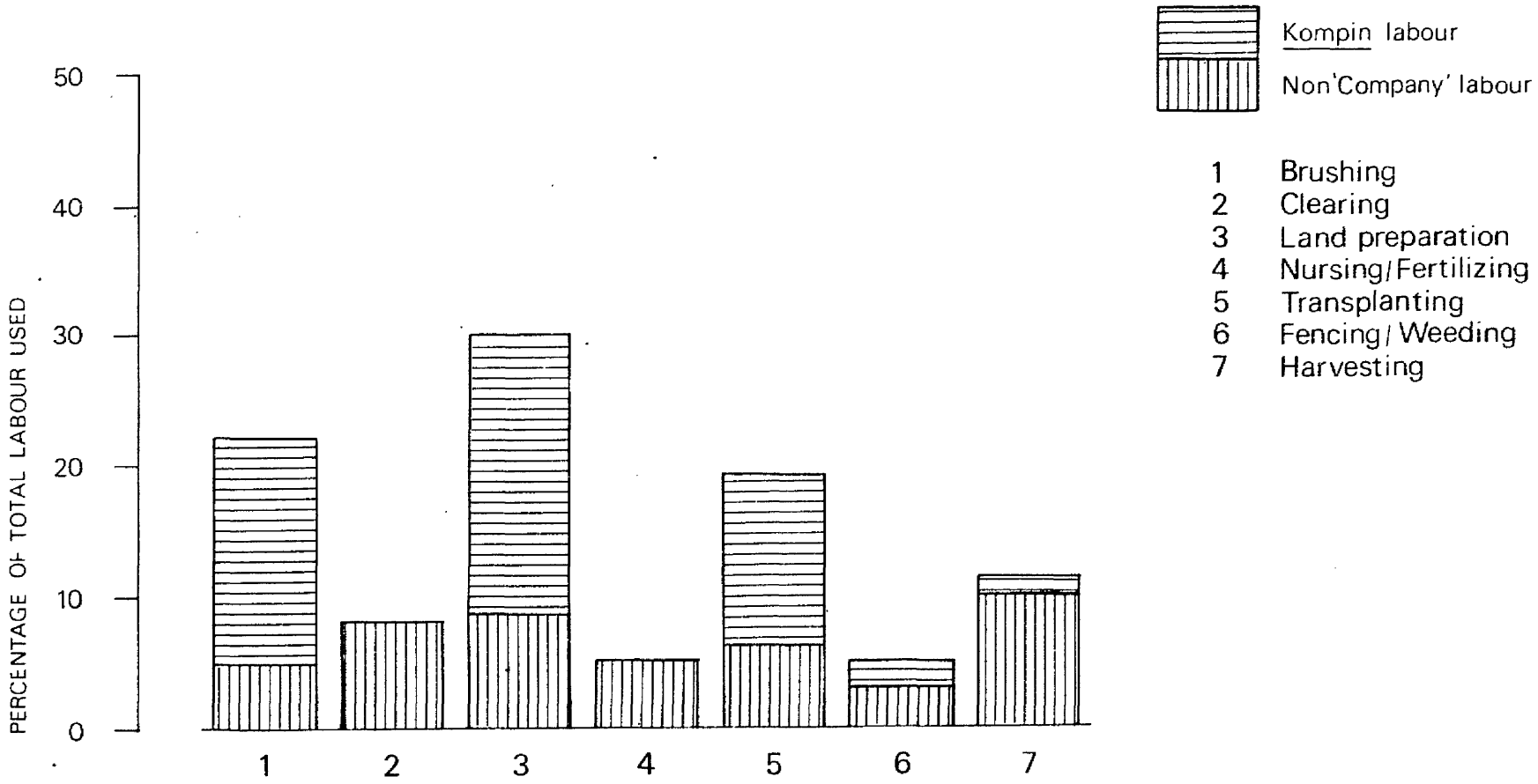

Fig 4:4 Labour use per activity on sample project farmer swamps in Bumban, 1978.

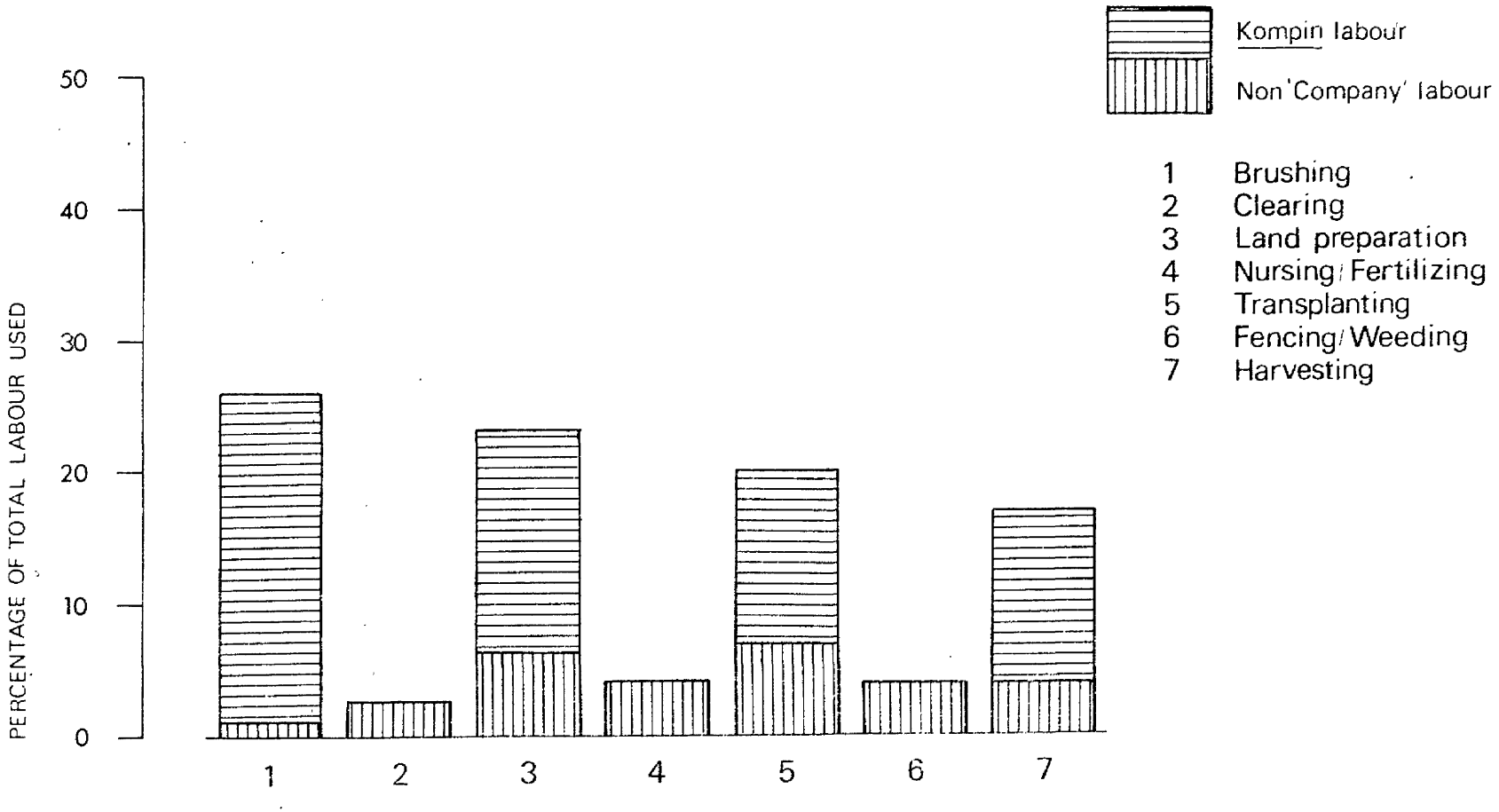

Fig 4:5 Labour use per activity on sample project farmer swamps in Gbendembu, 1978.

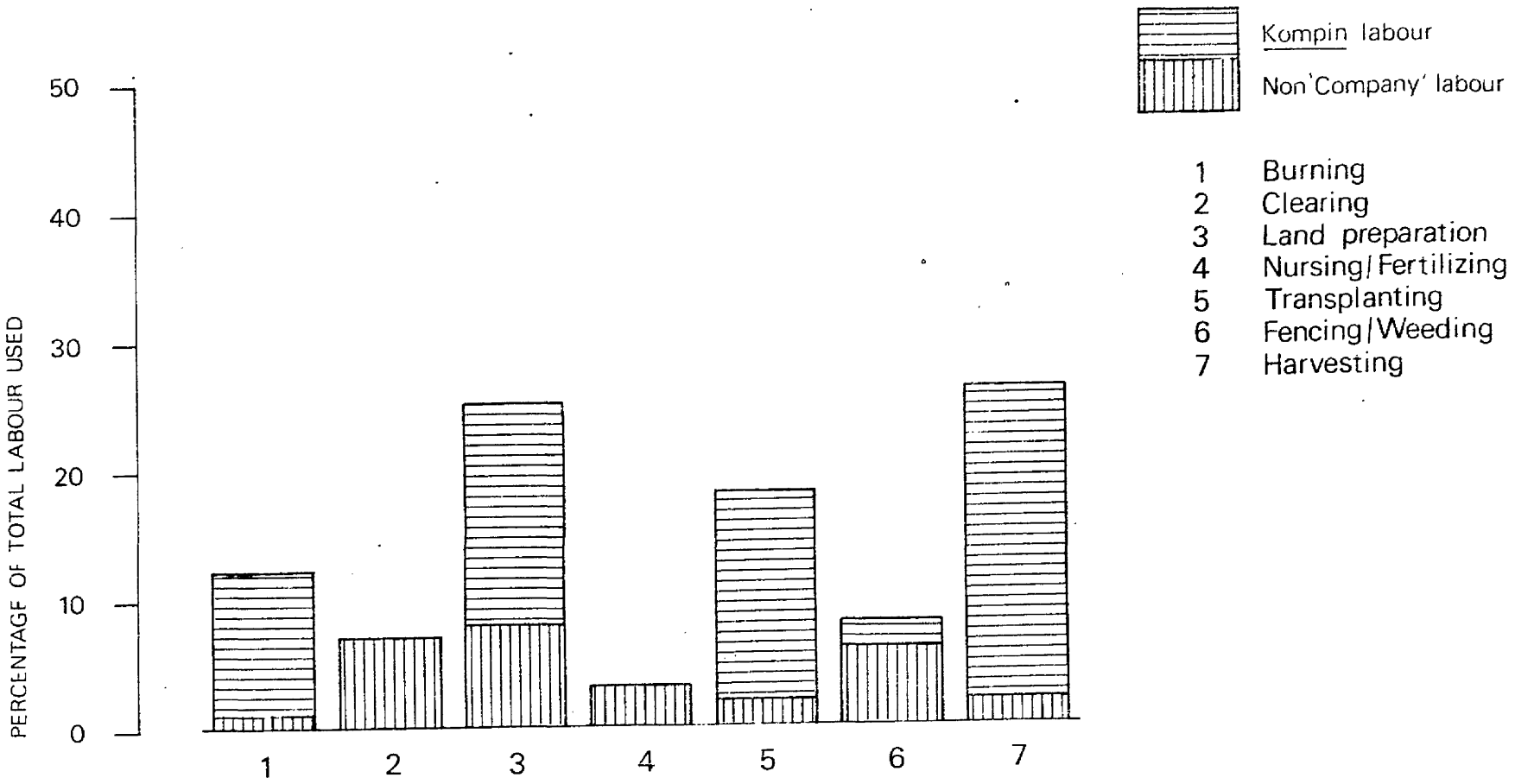

Fig 4:6 Labour use per activity on sample project farmer swamps in Matotoka, 1978.

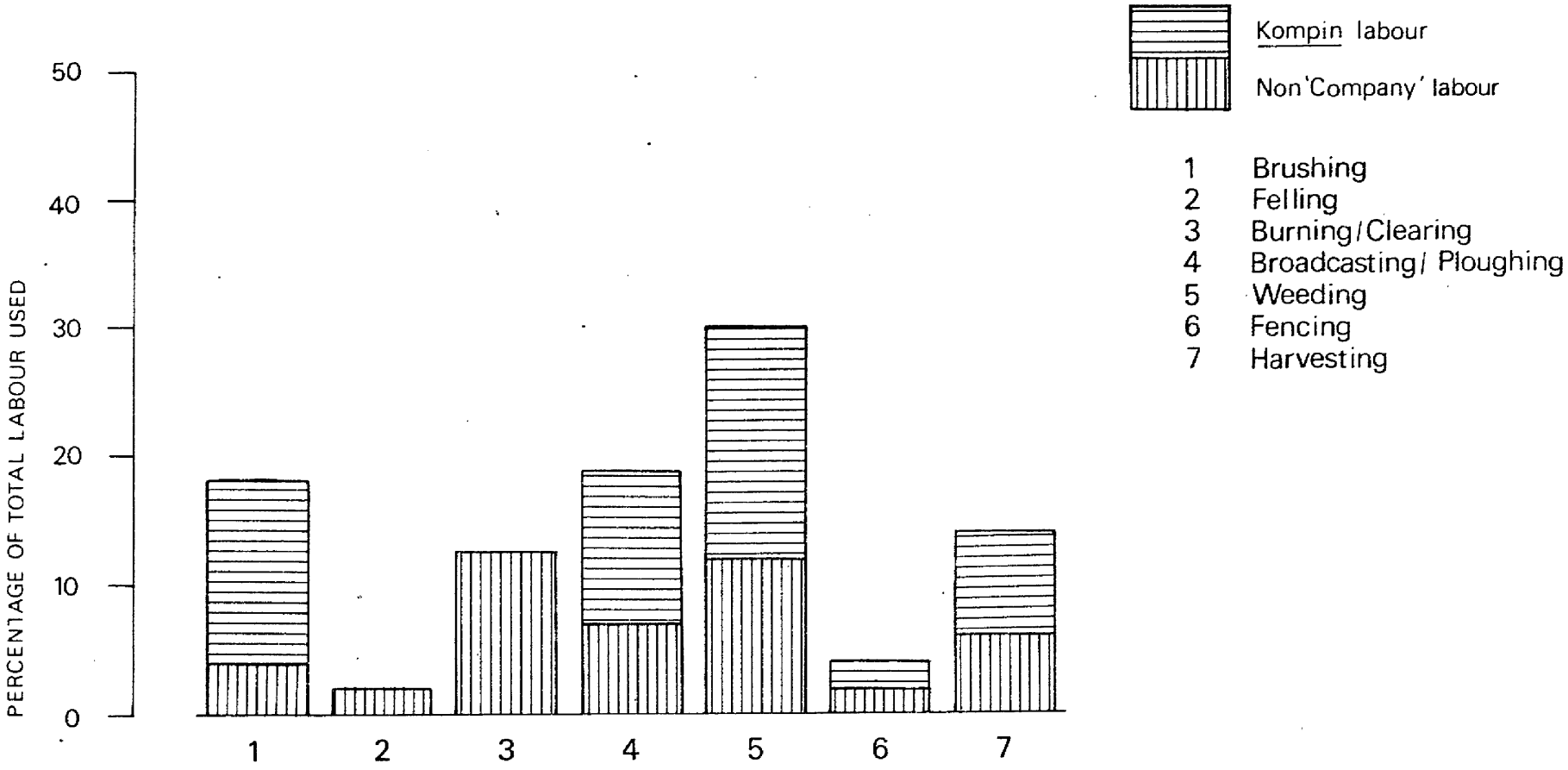

Fig 4:7 Labour use per activity on sample non project upland farms in Bumban, 1978.

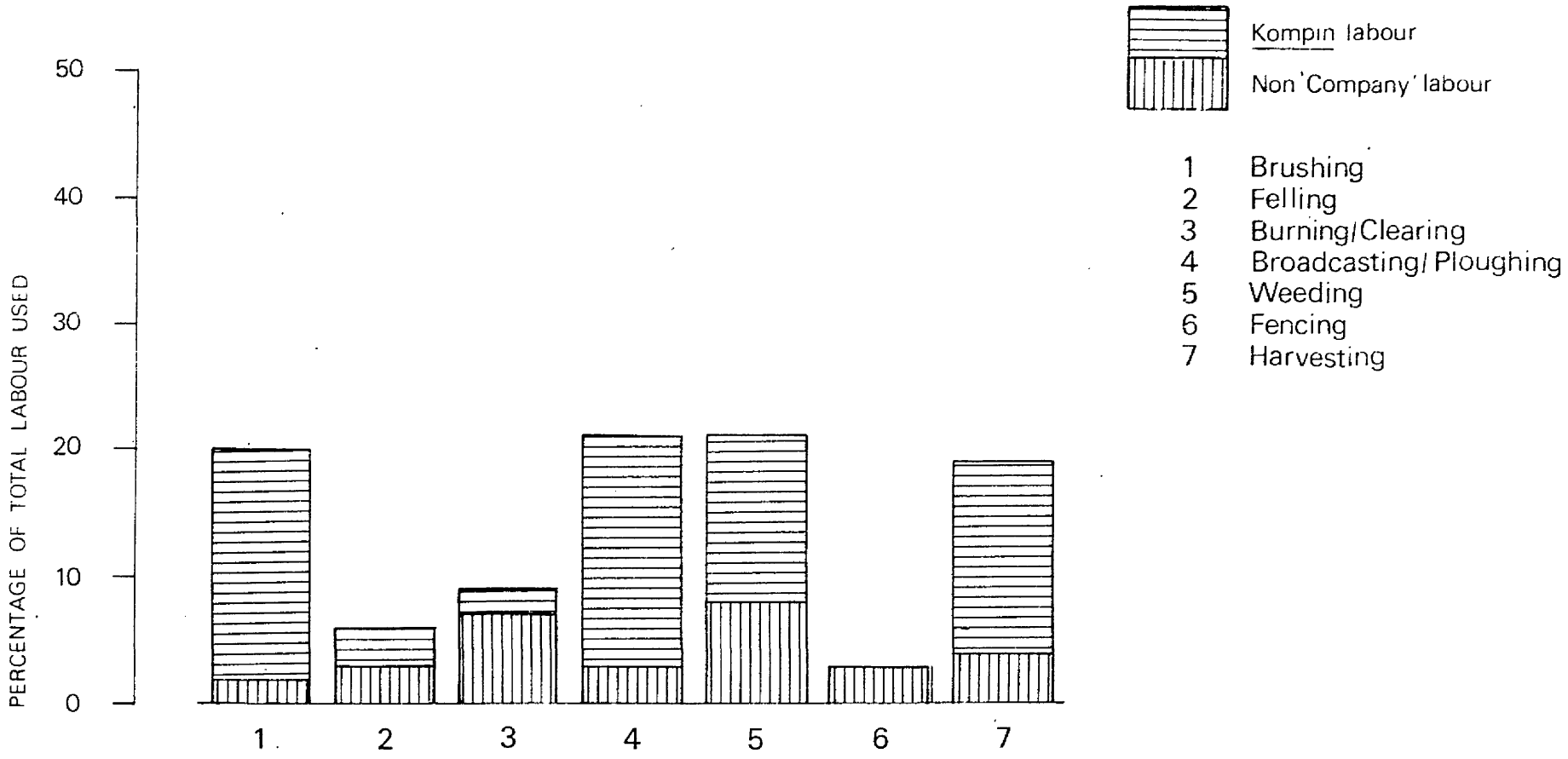

Fig 4:8 Labour use per activity on sample non project upland farms in Gbendembu, 1978.

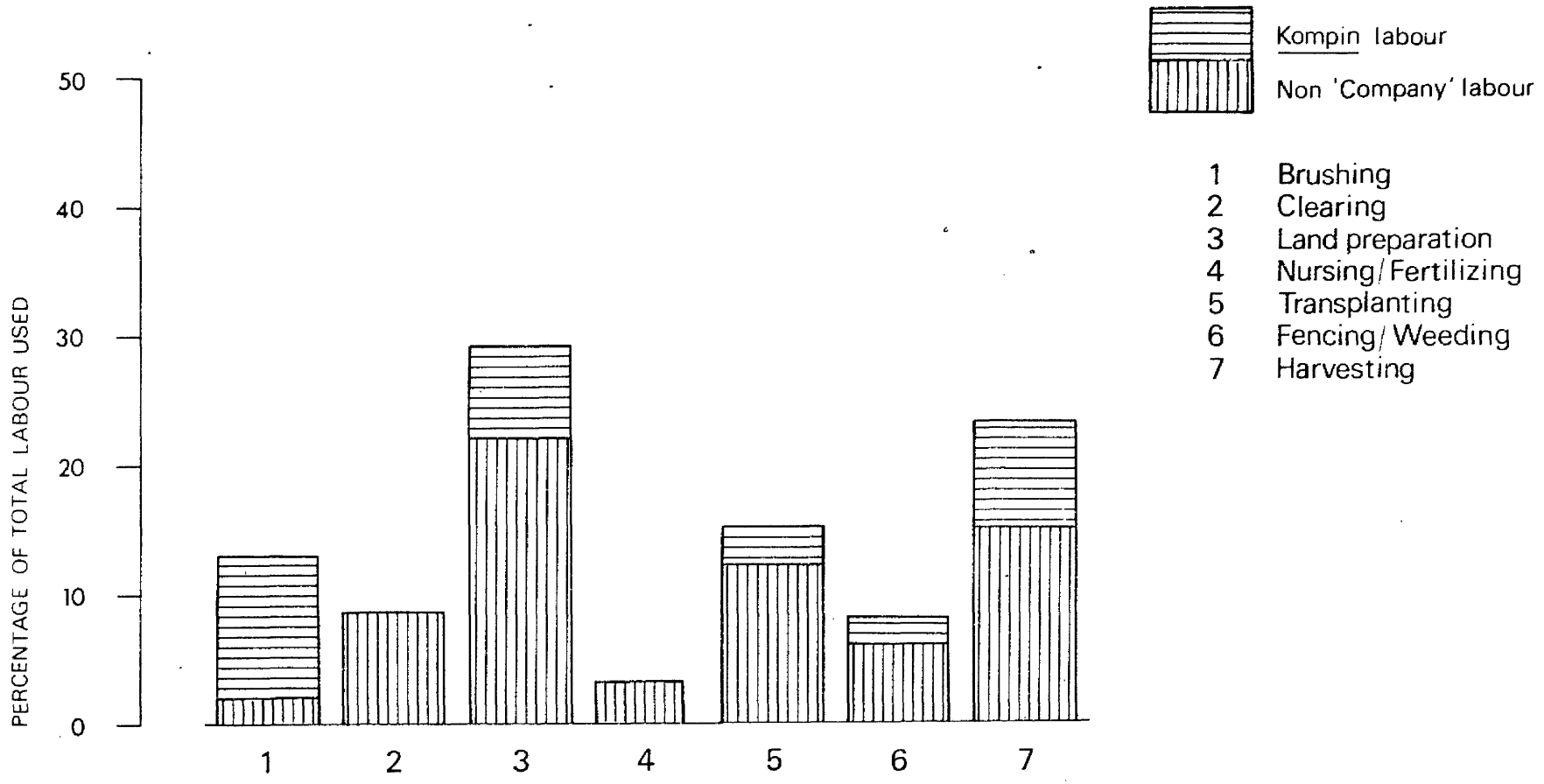

Fig 4:9 Labour use per activity on sample non project local swamps in Matotoka, 1978.

Southern Sierra Leone relates to the preference farmers show for upland cultivation. Because the present study was set up to provide comparative material farmers were faced with the same kinds of question concerning their preference for swamp or upland. Results of the studies are presented in Table 4:15. In Johnny's (1979) sample (drawn from two villages in Southern Sierra Leone) the majority of farmers indicated a preference for upland cultivation. All farmers preferring the upland option cited the possibility of intercropping and other economic rationalization as the basis for their choice (see Table 4:15).

TABLE 4:15 Reasons cited for preferring swamp or upland farming systems

REASONS FOR PREFERRRING SWAMP RICE FARMING (88 farmers *)

The work is easier	requires less assistance/able to work alone	24
	less time consuming/daily attendance not essential	10
	less pest control/bird scaring	7
	less weeding	5
	insufficient help from young people to farm upland/children at school	8
	Work is easier for women/old people	5
	Can be combined with off-farm work/ less time constrained/still obtain yield if start the work late	5
	Fewer separate operations in each year/ work more routine/familiar farm boundaries permanent (IADP farms)	5 3
Better rice yields 54+	more profitable	1
	more rice for same size of farm	1
	more than one crop a year possible	1
	unqualified	51

REASONS FOR PREFERRING UPLAND RICE FARMING (23 farmers*)

Intercropping 23++	food even when rice is finished	9
	greater variety of food, even if work is harder	3
	more food/greater variety of food	3
	more profitable (except in a bad year)	5
	earlier rice harvest, & intercropping reduces chances of indebtedness	2
	unqualified	1
Firewood sales 8		
Familiarity 3		
Upland rice tastes better 1		
Swamp work is unhealthy for the old 1		

*Some farmers cited more than one basic reason, and provided several additional glosses. Total of reasons cited is greater than the number of farmers interviewed.

Source: + Material deriving from own field survey, 1979

++ Data from Johnny's field survey in Southern Sierra Leone in 1978 (quoted by permission).

The sample covered in the present study appears to have taken into account a broader range of factors. Given a choice of one farming system to the exclusion of the other, 79% of male farmers would opt for swamp i.e. swamp cultivation is much more popular here than among Johnny's Southern Sierra Leone sample of farmers (cf. Tables 4:15 and 4:16). It is significant to note, however, that the preference for swamp farming is stronger among project farmers than non-project farmers. As noted by Richards (1981) the question of swamp versus upland is 'less relevant for women farmers as very few are in a position to acquire upland in their own right, or organize the necessary work parties' for weather-sensitive farming operations.

Recalling table 4:15, the reasons for preferring swamp cultivation revolved around the notion that yields are 'better' (and this was often explained to mean that swamp yields are 'more reliable' rather than necessarily implying a greater output of rice). Table 4:17 shows that, overall, swamp cultivation is more labour intensive than upland farming (cf. Spencer, 1975; Johnny, 1979). Nonetheless most farmers in the survey villages with a swamp preference claimed that the work involved is 'easier' The way in which different groups of farmers abstract and interprete the 'easiness' of operating a particular farming system, it is suggested, provides useful insights into the process whereby group interests become fused with the calculus of farm decision-making. This issue is looked at in some detail.

The data presented thus far and the analyses adopted provide support for the notion that:

(a) farmers differ in their capacity to organize labour, and
(b) that farmers also differ in the way they perceive, analyse, interpret and respond to different farming systems in their environment.

Elsewhere it has been argued that risk minimization strategies form part of the calculus of peasant decision-making (see Chapter 7).
The three interest groups noted above are - in effect 'poor', 'middle' and 'wealthy' peasants - each has a different interpretation of what is meant by 'easier' (in relation to the labour in rice farming).

Poor peasants in this context include both male and female farmers. For this group a major problem relates to negotiating each year for the land and labour necessary for upland shifting cultivation. A critical factor for success in upland cultivation is the timeliness of the various operations. In the context of upland farming, work groups are especially critical in ensuring rapid response to climatic opportunities (in order to take advantage of

Table 4:16 Farmer preferences for swamp or upland farming if restricted to only one type.

	SWAMP	UPLAND
Project Farmers		
MATOTOKA (n=19)	18	1
BUMBAN (n=18)	18	0
GBENDEMBU(n=19)	17	2
	53	3(5%)
Non-project Farmers		
MATOTOKA (n=19)	12	7
BUMBAN (n=17)	11	6
GBENDEMBU (n=19)	12	7
	35(64%)	20 (36%)

Source: Field Survey, 1979

sporadic rainfall during the planting season). Recalling Tables 4:14d and 4:14e it can be seen that 'company' labour provides between 55% and 70% of total labour for 'traditional' upland farms (cf. Figs. 4:7 and 4:8). It has already been suggested that poorer households may find greater difficulty in participating or stand to gain less from the 'Company' labour process . As argued already 'generosity' and social status help determine decisions about who gets the most 'strategic' assistance from a 'Company'. An essential requirement for 'Company' membership is that adequate food and entertainment be provided for the work party by the member on whose farm work is carried out. Thus for example provision of substandard food results in the imposition of a fine. Thus in effect, the poorer farmer, with unproven ability to meet these requirements is in a vulnerable position. He will be excluded from the more efficient 'companies', being left with the alternative of seeking out others in a similar position and setting up a rival but less well organized group. Such farmers may gravitate towards swamp farming because it is in effect 'permanent' cultivation and less dependent on securing the most disciplined 'company' labour available. In addition (where an 'improved' swamp is concerned) the issue of farm site acquisition is settled more or less permanently. Farmers in this category are more likely to better cope with the less tightly scheduled operations of swamp farming. Data on labour utilization on Matotoka non-project swamps would appear to confirm that such factors underpin the preferences of such poor peasants for swamp cultivation (cf. table 4:14f and figure 4:9). It is significant to note that farmers in this category appear to place more than average reliance on non-'Company' or household sources of labour for farm work (see Table 4:14f). Thus when 'poor' peasants describe swamp farming as being 'easier' it is simplified that given their limited scope for land acquisition and the political salience to organize and supervise large labour groups at the appropriate time (so as to underwrite the risks of time-constrained decisions) swamp farming is more manageable. Thus any generalizations such as 'farmers prefer upland to swamp cultivation in Sierra Leone' (or vice versa) should be treated with caution.

A second group of farmers in terms of farming system preferences and associated labour organization strategies can be characterized as 'middle peasants'. Upland farmers in both Northern and Southern Sierra Leone would appear to fall into this category. According to Richards (1981), the typical upland cultivator is 'a sturdy, self-reliant' household head, 'priding himself on his ability to feed his household and uphold accepted values'. The data in table 4:15 and discussion with farmers during fieldwork appear to suggest that ideological as well as nutritional issues are involved in this group's preference for upland farming.

An examination of Table 4:15 shows that the need for a 'varied diet' is significant to most farmers opting for upland cultivation. An essential aspect of established social values in the study area relates to 'hospitality' (cf. Finnegan, 1965; Jackson, 1976) - including plentiful and varied food supply for the household as well as for entertainment. Leading members of the best work cooperatives, or those household heads that can afford to 'contribute' members to such labour groups, are precisely the 'middle peasants' who stand to gain most from an ideology of 'hospitality'. Limba informants (in the nature of things, those most given to hospitality) constantly stressed the virtues of entertaining guests and workers, by means of a varied diet (and chiefs are expected to be especially hospitable).

This generosity is then repaid in the following way. On one occasion I worked alongside a labour 'Company' of circa 72 men ploughing the upland farm of a chief. The chief had to pay a 'hire' fee of 4 Leones because he was not a member of the Kune himself. A commercial fee would have been nearer 150 Leones. The low fee was justified because 'these are my children'[1]. The work party was generously entertained with food, drink, and music. When the Kune leader was interviewed on the issue of cash payment he confirmed the chief's view by noting that: 'the chief is our father and Limba people customarily give more or less free service to their chiefs as he is expected to entertain guests from the products of his farm'. It is unlikely that this 'hospitality' repays the full cost of the labour. The real pay-off is that the chief is in a postion to help advance, politically and socially, the 'Company' leader prepared to cooperate in this way.

In effect, the evidence suggests that farmers who use 'hospitality' to help construct and maintain the kinds of work parties necessary for efficient management of upland rice farms are also the farmers using the 'varied diet' idiom to claim legitimacy for a set of social values which act to reinforce their interests. For this group upland farm work is 'easier' than swamp cultivation because, it is suggested, it is the farming system that supports the kind of social organization that they are well placed to manipulate. In contrast to 'poor' peasants, members of this group tend to have the political muscle as well as the economic capacity to mobilize extra-household sources of labour for completing time-constrained operations on time. Put another way they can afford to engage in upland cultivation because they have the capacity to overcome constraints relating to access to land and labour.

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1 - Tape recorded interview with Section Chief in Bumban (12/7/79).

The considerable importance of 'Company' labour for upland farming noted earlier on (see Tables 4:14 d,e and Figs. 4:7 and 4:8) should be better understood within the context of the political economy of resource utilization in rural environments rather than presented as an 'independent variable' in an explanation of local farming systems.

A third category of farmers in terms of the present analysis can be characterized as 'wealthy' part-time farmer-cum-traders. Members of this group tend to have economic and political links to the wider national system, as well as substantial off-farm trading interests. Elsewhere in this thesis the suggestion has been made that project farmers tend to have, de facto, only a part-time interest in farming. This is borne out by evidence in table 6:12 which shows that thereare about three times as many project farmers as non-project farmers in 'high profit' off-farm occupations. Such part-time farmers may be critical of the social values of 'middle peasants' noted above. Wealthy, part-time farmers are more likely to legitimize their own interests more by reference to 'modernization' than to 'traditional' notions of hospitality. The relatively recent acceptance of the need to provide western-type education for one's own children in many African rural societies represents part of an alternative ideology to that espoused by 'middle peasants' and it appears to be especially associated with those aiming to gain more from trade than from farming. It has been shown elsewhere that project farmers manipulate this alternative by preferring educational to agricultural spending. Such spending undermines the so-called priciple of 'generalized reciprocity' which demands the pooling of resources. Educational investment, seen by relatively wealthy, part-time farmers as establishing a desirable set of new social values, can be pursued on an individual basis without provoking tension within the local community. Thus it can be argued that many project farmers prefer this kind of investment to saving and reinvestment in agriculture since the latter is more likely to increase pressure from within for sharing personal wealth. Thus for such farmers 'modern' swamp cultivation offers a useful ideological lever in their attempts to gain greater control over social relations of production. These farmers can hire labour from incomes derived from off-farm sources or cattle dealings. Thus 'surplus' labour can be acquired from 'Company' sources without becoming to deeply enmeshed in its social implications. Hence the overwhelming importance of this source of labour for project swamp cultivators. The wealthy farmer who describes 'improved' swamp cultivation as 'easier' means that such farming system better reinforces his significant off-farm interests. As noted by one farmer-trader in Gbendembu, with swamps 'it is not necessary to go to the farm every day', partly because there is less need for labour-intensive pest control, a vital factor on upland farming systems. Another aspect of the 'easiness' of swamp work for this group relates, rather paradoxically, to the fact that seasonal labour bottlenecks are more marked on swamp then

on upland farms (see Karimu and Richards, 1980: 100). Given the shortage of labour in the study area, it would appear that recourse to outside labour is almost inevitable when 'improved' swamp farming is opted for. As argued elsewhere farmers in certain categories of off-farm occupations (such as local court membership) are in a position to be able to pay the high costs of hired labour. Thus, provided a farmer has money for labour, although the labour input per hectare may increase, the bunched nature of the farming operations is advantageous in increasing scope for off-farm activities. The farmer's own involvement in the tedious work of farming is thus minimized and 'improved' swamp cultivation is therefore 'easier' for such farmers.

To sum up the evidence for the substantial importance of 'company' sources of labour has been analysed. A conclusion that emerges from this analysis is that the tapping of extra-household labour sources varies with:

(a) the farmers's socio-economic/political power status and
(b) the type of farming system i.e. whether upland, local swamp or 'improved' swamp cultivation methods are used.

It is suggested that an understanding of the labour profiles for different farming systems requires a critical analysis of the social interests which different farming systems reinforce. Comparative data on farmers' preference for specified farming systems were brought into the analyses. The combined evidence suggests that in rural Sierra Leone three categories of farmers, namely, 'poor', 'middle' and 'wealthy' peasants, can be identified. The point was emphasised that vertical linkages appear to exist between the different groups. The point has been argued that when informants describe farming systems as either 'easy' or 'difficult' they do so in relation to either group-specific constraints or their broader interests in the national economy. Thus any simple generalizations such as 'farmers prefer upland to swamp farming' or vice versa ought to be rejected as inadequate for understanding the deeper structures of rural social change. The evidence seems to suggest that preference for different farming systems (and hence labour needs) is a function of the political economy of resource utilization that characterizes the production and reproduction of rural social formations.

4:13 Analysis of farm management data

Labour input data for various rice farming systems in Sierra Leone derived from this and other studies will be analysed in this section. Table 4:17 gives a summary of farm management data for sample farmers and farms (based on man-day recalls by farmers). Labour input figures here are disaggregated into those relating to 'development' or constructional labour and recurrent inputs (i.e. labour required each year after the initial development). The disaggregation applies strictly only to swamp cultivation, particularly those managed along 'improved' lines as upland farming by definition imposes a need to shift the cultivation site from year to year or at fairly short and regular intervals. Column three of table 4:17 shows that over two thirds of the mean labour input per hectare in each case is accounted for by the recurrent component. This implies that even after allowance is made for initial constructional labour, swamp cultivation would appear to need considerably more labour than dry land cultivation for its successful management. The kinds of operations which account for this have been noted elsewhere in this chapter.

According to table 4:17 swamp cultivation in Gbendembu is one and a half times more labour intensive than dry land farming in the same village. By contrast, swamp labour inputs for Bumban are surprisingly low. This may reflect the very favourable topographic setting of swamps in the Bumban Valley and the point that they appear to have been under continuous cultivation for more than a century. Late 19th century observers often commented on the intensive agricultural enterprise of Biriwa Chiefdom, which was centred on Bumban under Suluku. Thus in 1895, for example, Governor Cardew wrote from Bumban that:.

> Bumban is very prettily situated at the mouth of a valley which is shut in by steep precipitous hills, those at the entrance rising on either side with sharp peaks. The valley itself presents the unusual sight of cattle grazing, and is, moreover, extremely fertile, and is exceptional in that the land is cultivated from year to year instead of being allowed to lie fallow after the first crop . . . . . .
> It bears successively crops of rice, sweet potatoes, cassada (cassava) and fundi[1] (my emphasis).

In 1887, MajorFesting characterized Biriwa farming as an 'all year round' activity.[2]

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1 - From Governor Cardew's travel reports, 25 March 1895, CO 879/42/481. (Quoted from Fyle 1979).

2 - From Festing's report, 1st July 1887, Co 879/24/318 (Quoted from Fyle, 1979).

Table 4:17 Labour utilization by sample farmers in survey villages:

Village/farm type	Labour input in man days/ ha.	%labour input for:		%labour input by source:		Mean farm size(in hectares)	Mean rice output (in bushels)	Total labour used by sample farmers (man days)	Mean labour force per family	Labour force as % of mean household household size
		Development	Running	Company	Non-company					
BUMBAN										
Project swamps(19)[1]	295	32	68	54	46	0.97	16	5383	4.6	51.7
Non project upland (16)	400	-	-	55	45	1.30	12	7747	3.5	64.8
GBENDEMBU										
Project swamps(14)	565	32	68	69	31	1.23	15	9614	3.7	27.6
Non-project upland (8)	385	-	-	70	30	1.30	15.4	3922	3.7	34.3
MATOTOKA										
Project swamps(18)	652.5	34	66	70	30	0.97	19	11456	3.8	36.2
Non project swamp. (13)	577.5	21	79	31	69	1.01	18	7508	4.3	48.9

Source: Field Survey, 1979

1 - refers to the size of n

In addition to this historical evidence, several project farmers in Bumban noted that their swamps had been substantially developed through an earlier involvement in an Italian volunteer programme. With the usual caveat relating to 'recall' data in mind, it would appear that the especially low labour inputs reported for Bumban swamps derive from these historical and environmental factors noted above.

Table 4:18 attempts to bring into focus a number of labour input estimates independently arrived at by other researchers. This allows a comparison with data from the present study.

Labour needs for 'improved' swamp cultivation, as assessed during the appraisal for IADP - North, should be similar for those required for upland rice cultivation (see IADP Appraisal, Vol. 2, 1975). The survey results from the Gbendembu case study discussed above do not lend support to this 'official' view (swamp cultivation along IADP lines would appear to require at least one and a half times more labour per hectare than for uplands).

Table 4:18 lists further comparative results from the present study and other studies. The FAO (1980) estimates put labour needs for cultivating one hectare of swamp along local lines at 190 man days per hectare. The GDI (1973) survey and the other individual research results quoted in table 4:18 suggest a mean figure of 180 man-days per hectare for upland rice cultivation (implying that local swamp cultivation is only about 20% more labour intensive than upland farming). More recent FAO labour estimates, subdivided into development and annual labour requirements are presented in table 4:19. These show that approximately 300 man days per hectare are needed to 'develop' one hectare of 'improved' swamp and that subsequently annual cultivation requirements are about 400 man days per hectare (see Fig:4:10 and Table 4:20). Thus even after allowing for the fact that swamp 'development' is a once and for all investment (an assumption which may be unrealistic given the annual labour time that goes into the maintenance of existing irrigation structures), the more recent estimates suggest that swamp cultivation labour needs are about two to three times the original estimates. The results from the survey for this thesis correspond more closely to the recent FAO (1980) estimates (see Table 4:17). It has been argued already that such miscalculations are likely to 'explain' a substantial part of the loan default data mapped in figure 5:1. But even more significantly, it would have the effect of further complicating the structural contradictions which many farmers find themselves in and hence limit the chances of a favourable response to loan repayment requirements by farmers (see chapter 5).

Table 4:18 Summary of labour requirements for upland and swamp rice farming systems in Sierra Leone: a comparison of results from selected studies.

	Development Labour		Annual Operations	
	Source of estimate	Workdays/ ha.	Source of estimate	Workdays/ ha.
'Improved swamp Earlier estimates		?	German Development Institute (1973)*	212
		?	Mitra (1969)*	156
		?	UNDP/FAO/IADS 1970)	220
		?	Nwafor (1968)*	175
		?	Average of four estimates	191
Recent Northern IADP estimates/ Measurements	Binkolo Training Swamp (1980)*	327		?
	IADP (1980)*			
	i - virgin swamp	325		400
	ii- partially developed swamp	239		400
Averages of Farmers' estimates reported during field-work, to the present author	Matotoka	220[1]		425[1]
	Bumban	94[1]*		198[1]*
	Gbendembu	178[1]		380[1]
Upland cultivation (various sources)			German Development Institute (1973)*	180
			Njoku(mende) (1979 : 110)	257[2]
	not applicable		Currens (Liberia) (1979:91) (i)	254[2]
			(ii)	174[1]
			Mitra (1969)*	178
			Nwafor (1968)*	188
Average of field-work measurements/ of farmers estimates	not applicable		Moyamba District (Johnny, 1979)	210[2]
			Bumban	380[1]
			Gbendembu	291[1]
			Average of nine estimates	235

Sources:
*Unpublished reports, Ministry of Agriculture and Forestry.
[1]Reported data (1979)
[2]Measured data (daily or weekly records)

Table 4:19
I.A.D.P. (NORTH) - PHASE II

ESTIMATES OF LABOUR REQUIREMENTS FOR SWAMP DEVELOPMENT

OPERATION	UNDEVELOPED SWAMP				PARTIALLY DEVELOPED SWAMP		
	Year 1	Year 2	Year 3	Total	Year 1	Year 2	Total
CLEARING, FELLING GATHERING & BURNING (1)	86	-	-	86	20	-	20
STUMPING (2)	48	15	-	63	43	-	43
CONSTRUCTION OF MAIN DRAIN	40	20	-	60	40	20	60
CONSTRUCTION OF SIDE CHANNELS, AND HEAD BUND	25	20	13	58	40	18	58
CONSTRUCTION OF INTERNAL BUNDS AND LEVELLING	20	20	18	58	40	18	58
TOTAL	219	75	31	325	183	56	239

(1) In order to obtain a net area of 1 hectare, about 25% more land has to be cleared and stumped. Vegetation in virgin swamps is usually much more dense than on uplands.

(2) Additional stumping requirements for partially developed swamps are usually quite high.

Source: (Vol. 1 of two volumes). Main Report and Annexes 1 - 5 FAO/World Bank Cooperative Programme Investment centre Report No 10/80, SIL. 6 Date 6. Feb. 1980

Table 4: 20 I.:A.D.P. (NORTHERN AREA) - PHASE II SWAMP RICE (man days)

CALENDAR OF OPERATIONS AND MONTHLY DISTRIBUTION OF LABOUR (1 hectare improved)

CROPS AND ACTIVITY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	COMMENTS
Maintenance irrigation system	-	-	-	-	25	-	-	-	-	-	-	-	25	
Land preparation	-	-	-	-	-	33	30	-	-	-	-	-	63	Including breaking of mounds; digging and levelling
Nursing and seeding	-	-	-	-	-	4	6	-	-	-	-	-	10	
Fertilizing and puddling	-	-	-	-	-	-	20	25	-	-	-	-	45	
Transplanting	-	-	-	-	-	-	50	10	-	-	-	-	60	
Weeding and Maintenance	-	-	-	-	-	-	-	-	15	20	10	-	45	
Bird Scaring	-	-	-	-	-	-	-	-	-	7	10	-	17	
Harvesting	25	-	-	-	-	-	-	-	-	-	-	110	135	
TOTAL	25	-	-	-	25	37	56	75	25	27	20	110	400	

Source: Report of the Sierra Leone IADP (North) Phase II preparation mission (Vol.I of two volumes). Main Report and Annexes 1 - 5 FAO/World Bank Cooperative Programme Investment Centre Report No. 10/80 SIL. 6 Date 6. Feb. 1980.

Using data on seasonal distribution of labour inputs for the neighbouring Port Loko area (Spencer, 1975), Karimu and Richards (1980 : 98-105) have attempted to estimate the types of labour bottlenecks likely to be found locally. They argue that the average farm family in the IADP area cannot provide much more than 60 days labour per month (assuming three adult on-farm workers per household). In extreme circumstances, involving a reduction of rest days per week and/or conscription of children, old people and others normally excluded from major farming tasks, might provide up to 80 work days per month. Analyses of the recent IADP phase II Preperation Mission labour input figures leads to the conclusion that within the context of available production resources in the project area:

> .... it would appear that there are two 'best' choices open to local rice farmers. If they are full-time farmers, without off-farm cash earning interests, they should stick to their existing combination of upland and local swamp farming practices, adopting those innovations such as fertilizer and improved seed, which allow them to increase output without significantly altering the pattern of labour inputs. If they have dry season employment opportunities .... it is better to concentrate on swamp farming alone. Local swamp farming is probably better for such people than an exclusive concentration on improved swamp technology (Karimu & Richards, 1980: 104).

The authors go on to note further that in the given circumstances of labour supply, and especially the bunched pattern of labour utilization on improved swamps, it is possible that the IADP is offering the wrong swamp technology (and perhaps to the wrong people as well). As already argued at several points in this thesis problems relating to IADP loan recovery partly reflect the clear fact that the technology on offer is much less advantageous than was originally evaluated.

4:14 Conclusion

This chapter has focused mainly on an analysis of the relationships between labour supply and the social organization of labour on the one hand, and the operating characteristics of local rice farming systems on the other hand. An important conclusion suggested by the evidence analysed is that in the project area it is labour rather than land that imposes a critical limit on peasant adoption of output-increasing agricultural innovations. The suggestion has been made at several points in this chapter that the issue of labour supply (and in particular how a labour force is 'constructed' for agricultural work) appears to have received inadequate attention at the planning stages for IADP - North. Consequently, in my view, labour requirements for the improved farming systems have not only been underestimated but also, more crucially, under-analysed. One result of this has been a lower than expected average loan recovery rate. Probably more significant, there appears to be a tendency for the package to be picked up by people who are de facto part-time farmers, with greater orientation towards urban-based activities. It has also been shown that the observed variation in response to project innovation is related to spatial differences in the availability of farm labour. By the evidence presented, therefore, the land shortage, labour-surplus thesis, which is a basic planning assumption of rural change programmes such as IADP - North, is questionable.

A further conclusion is that rural outmigration, involving young adult males in the main is widespread but that its intensity varies spatially. The 'population pressure/land shortage/ outmigration' syndrome has been rejected as inadequate in understanding migration processes in Northern Sierra Leone. The basis of this rejection is essentially that the paradigm seeks to isolate the phenomenon of rural outmigration from the contradictions of the social context in which outmigration occurs(contradictions that form part fo the history of the wider study area namely, Sierra Leone as a whole). It has been suggested that rural outmigration is rather better understood as a consequence of economic differentiation within rural societies on the one hand and structural contradictions which have emerged in the recent history of social and economic transformation in this part of West Africa. Thus the emphasis in this alternative formulation is a concentration on identifying the operative processes which enable certain categories of rural households to migrate while others do not. If this analysis of outmigration is proved broadly typical of Sierra Leone as a whole then it can be argued that integrated rural development as currently conceived and practised is likely to intensify rather than halt the process. This is because rural credit assistance appears to be reaching those farmers and areas most prone

to transferring available resources out of agricultural into educational and/or trading investments (hence into a different sector of the economy and different networks and circuits of capital formation).

The conclusion emerges from this chapter that work parties are a vital source of labour for farmers in the study area. The arguments presented, however, for understanding the 'construction' of work groups is at variance with what is generally supposed by many researchers (especially social anthropologists who tend to see such phenomena as 'traditional' co-operatives). Some development anthropologists with 'populist' leanings suggest such 'co-operatives' might be successfully modernized, to provide a framework for a more egalitarian, less individualistic style of development practice. Before such a stance is adopted much more critical analysis of the material is needed. Misconceptions and sentimentalization of the processes of social change could lead to misdirection of energy, waste of scarce research resources and probably a weakening of the sense of a radical national purpose. Work groups are capable of promoting the extraction of surplus value from the less influential members of community. In effect questions are being raised concerning the validity of the notion of 'generalized reciprocity' upon which basis work groups are supposed to operate. There is evidence to suggest that exploitation of labour is possible within an overall organizational rhetoric of 'cooperativeness'. Nevertheless further research in the communities observed is now needed. For example the issue of the historical circumstances under which work groups emerged remains unresolved.

A final section in this chapter focuses on the evidence concerning preferences for different farming systems, use of alternative labour mobilization strategies and involvement in off-farm activities. Three categories of peasants are identified, namely, 'poor', 'middle' and 'wealthy' peasants. Each of these groups of peasants tend to abstract and interprete a farming system either as 'easy' or 'difficult' on rather different grounds. Thus when poor farmers talk about the 'easiness' of swamp cultivation, this tends to relate less to the demands of the physical work involved and more to the constraints of access to essential productive resources experienced by this group. By contrast, swamp farming is 'easy' for wealthier farmers because it is less weather-sensitive and allows a much wider latitude for such farmers to reinforce their off-farm trading interests. Such farmers are more likely to adopt improved technologies of swamp cultivation as it is likely that they can generate enough income from off-farm sources to pay for the inevitable hired labour that such a system demands.

'Middle' peasants on the other hand, tend to be more associated with dry land cultivation. Being full-time farmers on the whole, and in relatively influential positions to organize 'Company' labour, this group of farmers emphasises the ideological importance of the 'varied diet' derived from upland intercropping.

The evidence suggests a rejection of over-simple generalization such as 'farmers in Sierra Leone prefer upland to swamp cultivation'. What seems to be at issue is preference for farming systems that is in turn conditioned by either group-specific constraints or the nature of the individual's interests in the wider national economic system.

CHAPTER 5

THE RURAL CREDIT PROCESS - THE IMPACT OF IADP

5:1 Introduction

The conventional interpretation and planning of environmental resource utilization in Africa assumes that African societies are characterized either by 'little access to technology' (World Bank, 1975 : 21) or by, in McLoughlin's phrase, 'innovation up to a limited point' (McLoughlin, 1970). Planning approaches based on such a 'modernization paradigm' (see Roxborough, 1979 for a summary of this approach and Frank, 1969) consequently aim to supply the necessary technology or innovation from 'outside' sources and to promote the process of diffusion of the appropriate 'development hardware'. The aims and objectives of the Northern integrated Agricultural Development Project, the subject of our analysis, would appear to closely correspond to the prescriptions of modernization theory as briefly outlined. The fundamental focus of the project is to increase the agricultural productivity and farm incomes of 'small farmers' through the promotion of 'low-cost, yield increasing technology'. Agricultural inputs include high-yielding rice, groundnuts, and maize, chemical fertilizers and technical advice. To facilitate the envisaged technological transformation and also to 'alleviate monopoly situations which force interest rates to excessively high levels'[1] supporting services include:

(a) provision of cheap institutional credit to 'small farmers';

(b) coordination of a farm access road building programme to facilitate the process of incorporation of 'subsistence producers' in the exchange sector of the national economy;

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1 - The IADP is partly funded by the World Bank. In the conventional thinking of the latter, the most significant role of agricultural credit in development is to 'encourage small subsistence farmers to raise their output and become commercial producers', since these farmers have hitherto remained or assumed to remain in isolation (World Bank, 1975 : 7).

(c) provision of village wells in order to minimize the problems associated with seasonal water shortages.

The particular concern of this chapter is to examine the effectiveness of the credit policy of the project, paying particular attention to the potential for institutional credit to displace or augment available local credit networks. A hypothesis examined is that provision of project credit helps disengagement from locally-focused social structures and increases participation in modern urban sector activities. It is argued that project credit is tending to reach those farmers who are already well-to-do. One important consequence of this,it is argued, is to exacerbate what Richards (1980) has termed 'trade bias', by helping shift capital and human resources out of the agricultural sector (c.f. Levi, 1976; Lipton, 1973). It has been suggested that this is a 'typical transformation' for many African rural areas, involving:

> a shift from 'subsistence' food-crop farming to cultivation of an export 'cash' crop, thence to lorry ownership (via livestock trade), and export produce buying. 'Subsistence' farming, structurally essential to the economy as a provider of urban foodstuffs, meanwhile experiences involution, losing land to 'cash' crop production and labour to urban employment (Richards, 1980).

The way in which rival credit systems act to facilitate this process will be examined in the following sections.

5:2 Rural Credit Patterns

Agricultural credit is often considered a key element in the modernization of peasant farming in African and other Third World Countries (FAO,1964; Moinuddin, 1969; World Bank, 1975 a & b; Datey, 1978). According to a Bank of Sierra Leone study concerning the nature of credit systems in rural Sierra Leone a substantial proportion of farmers obtain credit from two principal sources. These are termed 'institutional' and 'non-institutional', example commercial banks on the one hand and private money lenders on the other. For the sample studied about 80% of the farmers obtained credit from these two sources. The bulk of this was reported to have come from 'non-institutional' sources.

Table 5:1 gives a breakdown in percentage terms of reported credit sources available to farmers. Cooperative and government loans accounted for just over 9%

Table 5:1 Sources of farmer credit in Sierra Leone, 1968.

Source	Percent of loans	Percent of Monies borrowed
Relatives and Friends	50.2	44.6
African Traders	18.7	19.2
African farmers	18.7	10.4
Co-operative Societies	8.2	10.5
Non-African Traders	3.2	2.3
Agricultural Loans and credit scheme	1.0	13.0
	100.0%	100.0%

Source' Moinuddin, S.H., 1969.

of loans granted, but 25% in terms of total cash advanced. This reflects the fact that only a few wealthy farmers with sizeable collateral benefit from such institutional credits. The evidence seems to support the World Bank's contention that in Third World Countries 'it is common to find 70% or 80% of small farmers in a given country with virtually no access to such credit' (i.e. institutional credit) (World Bank, 1975 : 5).

Table 5:2 summarizes data in Levi (1976) concerning rural credit in Sierra Leone. Significantly, this shows that 43% of borrowing farmers and 33% of money borrowed relates to family maintenance during the 'hungry season'. Other documented reasons for indebtedness are hiring labour, and the need to fulfil social, religious, ritual and educational obligations. Establishment of cash crop plantations accounted for 26% of all money borrowed, thus constituting the major example of capital investment in agriculture in rural Sierra Leone. The widespread indebtedness suggested in the two studies reviewed has been recently confirmed by Mosley (1979) in a study relating to Safroko Limba Chiefdom (one of the chiefdoms in the Project area). She observes that on average sample farmers in the villages studied had between two and three separate items of debt, totalling approximately Le 50.00. About 1/3 of all indebtedness, Mosley maintains, related to rice purchase during the 'hungry season', for food, seed or feeding of labour groups. The major part of this non-institutional credit is advanced on a short-term basis, generally requiring repayment at the end of the cultivation season in which the loan is contracted.

These three studies confirm the picture derived from fieldwork of a large number of poor farmers requiring credit from non-institutional sources for subsistence existing side by side with a smaller number of less-vulnerable farmers able to raise credit from institutional sources for investment in commodity production. It is estimated that up to 45% of total rural credit is supplied by friends and kinsmen, and another 30% by village money lenders such as traders, transport operators and a few 'wealthy' part-time farmers. It is important therefore to note that perhaps 75% of all rural credit needs are supplied by 'big men' within rural society. It is against this background that project credit strategies, as part of World Bank Rural Development philosophy, will now be examined.

In recent years, the World Bank's model of development has placed particular empahsis on the need to devise programmes for increasing the welfare of 'that approximately 40% of the population of our developing member countries who have

Table 5:2 Use of Rural Credit by Sierra Leone farmers, 1968.

Purpose	% of farmers borrowing	% of total monies borrowed
Crop supplies	7.7	2.7
Hired labour	15.3	11.1
Ploughing fees	2.6	2.4
Plantation Maintenance	4.0	5.3
'Hungry Season' Maintenance	42.8	33.2
Construction and repair of homestead	4.0	7.5
Plantation establishment	4.0	20.8
Social, Religious and educational needs	13.7	10.4
Litigation	5.9	6.6
	100.0%	100.0%

Source: Moinuddin, S.H. - Unpublished report, op.cit., P.68.

neither been able to contribute significantly to national economic growth, nor to share equitably in economic progress' (McNamara, 1975). The provision of agricultural credit is viewed as a key factor in the process of technical change in agriculture. In providing agricultural credit the World Bank's objectives are to:

(a) 'alleviate monopoly situations which force interest rates to excessively high levels, by offering an alternative source of funds to small farmers who hitherto have dealt with a credit monopolist in the village';

(b) assist small farmers in the transition from 'subsistence production' to commercial production of crops i.e. production for exchange.

As part of World Bank policy, the IADP credit programme reflects the assumption that, in large part, a shortage of capital is responsible for slow rates of investment, growth and technical modernization in Sierra Leone agriculture. The Bank's view is that:

> 'the poor are poor because they have low incomes. Cash is important to alleviate poverty' (Payer, 1979, quoting World Bank official Ted Davies).

Agricultural credit provision is therefore viewed by the World Bank as a necessary condition for opening up hitherto 'remote' societies to world capitalism. Another official of the Bank suggested that 'a cash economy is an opening to the outside world' (quoted in Payer, 1979) in summing up the assumed condition of Third World societies prior to agricultural credit.

To sum up thus far, World Bank credit policy in the rural sector aims to provide capital for productive purposes in order to achieve the main goals of removing assumed but undemonstrated village usury and opening up hitherto remote communities to commodity production. In the following pages it will be suggested that such a conception of rural development is mistaken in several important respects.

First, the assumption concerning the 'isolated' character of Third World societies implied in the Bank's strategy is misleading. The evidence suggests a long history of commodity production in West African peasant agriculture and a familiarity with the institutions of merchant capital long pre-dating colonial involvement (Rodney, 1976; Hopkins, 1973; Abraham, 1976; Fyle, 1979; Howard, 1979). The 'isolation' thesis in African economic history can only be sustained by deliberately ignoring the long-run evidence provided by these, and other studies and paying exclusive attention to recent economic history. To take the case of Northern Sierra

Leone, Fyle (1979) and Howard (1975; 1978), among others, have shown that the present project area was part of an especially dynamic and prosperous long distance and interregional trading zone in the pre-colonial period. Fyle's (1979) example is of Biriwa chiefdom, under Amadu Suluku. Much long distance trade linking the Sierra Leone peninsula with the far interior was coordinated by and passed through Biriwa in the mid-nineteenth century. The taxing of this trade provided an important source of revenue for the Biriwa political leadership in the pre-colonial period (c.f. Fyle, 1979 : 22). The fact that the twentieth century 'cash' crop 'revolution' emphasised forest-zone tree crops and was therefore mainly concentrated in the ecologically more favourable Southern and Eastern provices should not lead to the assumption that the Northern communities have only recently emerged from commercial isolation. Even though adversely affected by the shift in emphasis towards crops such as cocoa most farmers in the project area are involved to a considerable extent in local exchange systems involving palm kernels, grounnuts, kola nuts, rice and coffee. More recently the introduction of tobacco cultivation in the project area by the Rokel Leaf Tobacco Company has received enthusiastic attention of local farmers.

Thus it should be understood that social change resulting from the articulation of local economies with mercantile capitalism and overseas trade (in palm kernels for example) has deep roots and that this historical experience has considerable implications for contemporary development efforts in the area. Any notion that peasant farmers in the project area are characterized by an 'intrinsic' inward-looking, 'subsistence' mentality should be dispelled in the light of recent writing on the economic history of the region (see also Howard, 1975; 1978).

Another problem stemming from the World Bank's model of development is the restrictive assumption that credit is solely a financial tool in rural areas. Such a view is dangerously limited in societies where credit systems serve to fulfil social and political objectives. The use of credit to achieve the reproduction of political and social power relations in rural communities will be examined elsewhere in this chapter.

World Bank credit policy also appears to assume that an increase in rural productivity necessarily generates an increase in rural welfare, particularly in the welfare of the bottom 40%. The nature of the implied processes are left unexplored and unspecified, and at best receive only passing mention. For example, Lele (1975) throws responsibility for income redistribution on to the shoulders of local

bureaucrats and politicians:

> Government planners therefore have the difficult job of reconciling the needs for growth as well as for broadening participation and of finding a coherent rural development strategy which is politically feasible and economically sound and can be implemented administratively (Lele, 1975 : 142)

This is clearly an admission of the lack of definition and specification of the relationships between growth and equity in the Bank's approach to rural development. Project officials advanced the explanation that rural development is an operation which can be disaggregated into 4 components:

(a) Input provision i.e. capital and technical requirements for promoting development;

(b) 'Need' identification i.e. deciding what kinds of activity need close attention (and in which (a) above can assist). In practice this proved synonymous with the notion of 'project identification' (where projects may be thought of in either regional or sectoral terms).

(c) Definition of project objectives, (typically involving quantified 'estimates' of project performance as well). Thus in the case of IADP project definition involves specifying crops to be promoted, hectarages to be brought under cultivation by the end of the life span of the project, and an 'estimate' of the number of beneficiaries. It is significant to note that in the case of IADP absolutely no explicit reference was made to a bottom 40% target. If such a target was implied, however, (as suggested by some Project officials) there was no attempt to specify the process for reaching such a group (see IADP appraisal, 1974).

(d) Finally, goal definition for the project identified. In this regard the Project Management of the Northern Area Integrated Agricultural Development Project emphasised the distinction between 'objectives', i.e. short-term expectations, and 'goals' i.e. broader issues relating to local politics and ideology and of a longer-term dimension. The World Bank, providing counter-part funding for IADP, specifically restricts itself to participating directly in formulating 'objectives'. As suggested by the quotation from Lele (1975) above 'goal' formulation is left in the hands of local planners because, it is argued, these are inherently 'political' issues. A number of questions arise concerning this distinction between 'political' and 'non-political'.

Firstly, lack of involvement in goal formulation may result in a conflict between 'growth' (attainable via 'objectives') and 'equity' (achievable only via 'goals') in rural areas. The Bank by restricting activity to so-called 'non-political' issues has to live

with a contradiction between theory on the one hand (see McNamara's Nairobi Speech, 1975), and practice on the other. It is the view of the author that until such contradictions are resolved at the practical level the declaration to assist the 'poorer half of the rural population', itself inherently ideological, would remain a pious hope.

Evidence abounds in the literature to suggest that the so-called 'Green Revolution' has consistently and systematically tended to favour well-to-do farmers because of the nature of the technology on offer (c.f. Pearse, 1980; Karimu and Richards, 1980 for specifically African evidence). As a consequence of these technical changes in rural societies, new relations of production have emerged. Those new relations of production involve what may be termed the 'semi-proletarianization' of the poorer farmers. Thus even though the World Bank may want to see itself as not 'involved' in politics, the results of Bank-funded projects yield explicitly political results. (There is of course much argument by political commentators on both the 'left' and 'right' as to whether or not such transformation of rural societies from non-capitalist relations of production to an advanced stage of capitalism is not an essential pre-requisite for any form of lasting development).

If welfare is defined as an overall improvement in the standard of living of a substantial proportion of rural people, then the assumed connection between increased productivity and welfare becomes even more problematic. Let us illustrate the character of this problem by reference to the introduction of cash crops in rural Africa in the colonial period. The introduction of these crops did not necessarily lead to major improvements in welfare. Many cash-crop producing areas today are still characterized by lack of health facilities, inaccessible conditions, lack of schools, and in the phrase of the World Bank widespread 'absolute poverty' (World Bank, 1979, 1980). In Asia the 'Green Revolution' has increased productivity per unit area, but typically at the expense of increased inequality and rural poverty (Griffin, 1975).

The World Bank formula for rural development is also characterized by lack of specification of the mechanism by which increased rural productivity will actually benefit the rural areas. The absence of such a mechanism in the conception of rural development, it is argued, suggests that within the existing framework priority has been, in real terms, assigned to the need to produce food for the urban consumer where concentration in spatially restricted urban centres poses a political threat to the ruling elite. Furthermore the argument is developed to show that contemporary rural develpment approaches are harmful to the interests of the more vulnerable farmers in rural society.

Finally, the Bank can be criticised for not paying attention to the issue of popular participation in planning. If rural credit is intended to benefit the poorest farmers then there is a clear need to establish a planning framework which would allow for the participation of the poor in the planning process in order to provide opportunities for critical self-evaluation of their needs.

In relation to the needs of the poorest farmers implied in the 'bottom 40%' notion there is a need to understand that the concept is as much a spatial as a socio-economic class phenomenon in many Third World situations. Thus attempts to reach the 'bottom 40%' invariably require an accurate mapping of the pattern of distribution of such groups in rural space. As currently conceived, Bank thinking is inadequate to allow for identification of the 'bottom 40%' as a spatial category. It is argued elsewhere in this thesis that the inadequacies of spatial analysis in the case of the Northern Area Project partly account for the existence of anomalies in the allocation of those resources seen as necessary to promote rural development.

5:3 The Economic approach to interest rates

Thus far attention has focused on the World Bank's conception of rural development, and in particular on the role of credit in promoting rural welfare. Bank policy has been criticised for the vagueness of its central concepts and the rather narrow 'econometric' approach to the key issues of growth and equity. Open to question also is the implicit assumption that African rural societies are isolated and hence need a 'top-to-bottom' development strategy. In order to relate these general criticisms to the specific context of this study, an attempt will be made in the following paragraphs to present an interpretation of rural credit systems in Bank terms. Particular attention will be paid to the notion that in rural areas interest rates on loans are determined according to the laws of price formation i.e. by the demand for capital and its supply. It is suggested below that credit, and by implication interest rates, have non-economic dimensions which are critical for understanding Datey's (1978) claim that 'most farmers look to non-institutional lenders (village money lenders) for the credit they need'.

An approach for analysing credit institutions in the Third World based on market economics assumption has been suggested by Bottomley (1964). It is significant to note that Bottemley's analysis bears very close correspondence to the World Bank's notions concerning rural credit institutions. Interest rates are high in Third World rural communities and in Bottomley's view this results from the interplay of four factors:

(i) the unit opportunity cost of the lender's raw material - money. Bottomley argues that the level of this component of interest rates is a function of the degree to which the lender's own liquidity needs are personally satisfied and the number of competing outlets available for the lender's fund. Thus the greater the perceived sacrifice and competition between alternative uses the higher the unit opportunity cost is likely to be.

(ii) The unit administrative cost of lending. This is essentially the cost of keeping the village money lender in business and is judged to be inversely related to the size of loans advanced and their duration to reduce this component, there is no adequate disaggregation of the 'administrative cost' component to allow a critical assessment of the size of such cost in the context of village money lending. For example, in terms of institutional lending, a World Bank study in India suggests that administrative costs tend to rise steeply with salary scale as well as the 'amount of ancillary services provided' by the scheme (World Bank, 1975 : 44). Given the limited bureaucratic

measures involved in village money lending, the emphasis given to this variable in the analysis would appear questionable.

(iii) Allowance for 'normal' default. The author argues that village money lenders anticipate a certain net rate of default in their credit transactions. If a village money lender anticipates a 10% default this would imply that all borrowers would be charged 10% more interest as risk premium.

(iv) Finally Bottomley identifies monopoly profit or usury as a factor in explaining high interest rates in rural areas. It is significant to note that the existence of usury is uncritically assumed rather than proved by many writers on rural development (c.f. Moinuddin, 1969; FAO, 1975; World Bank 1975 a & b). For example, the World Bank in a major policy statement recommends that:

> 'the object of government (credit) policy should be to eliminate not the money lender, but his monopoly profit.'

and the most effective strategy for achieving this goal in the view of the Bank is to 'increase. . . the volume of credit in agriculture' (World Bank, 1975 : 29). Although the FAO (1975) assumes the existence of monopoly profit among village money lenders, it is suggested that the strategy of increased volume of agricultural credit is unlikely to produce dynamism in the agricultural sector because, FAO maintains:

> It is a fact that astonishingly little, indeed no reference at all is made to interest rates in a list of farmers' grievances and claims.

Accordingly FAO makes a radically different recommendation for promoting agricultural development. It is summarized thus:

> This (low priority of high interest rates) surely shows that farmers are not particularly responsive to interest cuts, <u>but would prefer measures which lower the prices of their inputs or raise those at which they sell their produce</u> . . . (my emphasis)

The contrasting approaches of the World Bank on the one hand, and the FAO on the other is enough to suggest that there are problems with a Bottomley-type account, focusing on a single dimension, namely 'interest rates', of a very complicated phenomenon. It is quite easy to see how the different emphasis of the World Bank and FAO could have arisen. Fieldwork among richer, money lending farmers might lead to an understimate of the true significance of usury in rural communities. By contrast, interviews with mainly poorer farmers, who are likely to be entering into

credit relation on a seasonal basis, will be likely to emphasise usury as a key issue. The danger in the Bottomley analysis, preoccupied with the structure of interest rates, is the concentration on entirely economic factors to the exclusion of non-economic meanings of credit in rural societies. Below, it is shown that local society is partly 'reproduced' via the nexus of credit relations. Thus much more is at stake than the economic 'cost' of capital.

Another problem stemming from this type of analysis relates to the implicit assumption that the true costs of institutional credit are lower than credit advanced by informal sources. The basis for this assumption is unclear and may not be borne out by empirical investigation. For example, in a recent World Bank-sponsored investigation into the financial cost of agricultural credit in India, Datey (1978) makes the following observation:

> When all the costs enumerated above and others of a similar nature are added to interest, it may be that institutional credit is not as cheap in relation to funds obtainable from other sources as is commonly supposed (Datey, 1978 : 38).

Another study in Bangladesh (AID, 1973) revealed that a combination of application fees, travel and entertainment costs, and loss of working days while obtaining loans made institutional credit as expensive, if not more so than, non-institutional loans. Thus the assumption about the relative 'cheapness' of institutional credit may be incorrect.

It is probably significant to note that the Datey (1978) study of Indian credit costs related particularly to institutions providing medium to long term credit in relatively large per capita doses, i.e. cooperative societies and Land Development Banks of India. Although there has been substantial agreement in the literature that credit of these types are likely to carry overall low costs Datey is fairly critical of this conclusion.

Given that there are some grounds for a critical evaluation of the Bottomley schema for understanding the structure of rural credit networks, the contention in this thesis is that singular empahasis on profit motivation in rural credit systems is unhelpful in trying to situate institutional credit within the context of vital social, political and cultural processes. It is argued in the following section that credit has important non-economic dimensions which are important to decode for an understanding of how

World Bank capital locks into a rural social formation still characterized by some important non-capitalist relations of production and reproduction.

5:4 The Non-economic dimensions of credit in Villages

Investigation of the nature of village money lending institutions proved problematic for the obvious reason that it is a particularly 'sensitive' area of discussion. It is generally supposed that this 'sensitiveness' derives from the financial transactions involved in village credit systems. Even though quantitative data may be difficult to come by on this matter, my field observation leads me to believe that the 'sensitivity' is more to do with the manipulation of credit to achieve certain relations of power within village societies and less to do with the size of loans and rates of interest. Most of the material here is not of the 'hard data' type but useful qualitative information based on informal discussion with 'informed' members of the villages visited.

Village money lending in the study area appears to be dominated by three categories of people. These were observed to be:

(i) Big farmer-cum-traders: these ar generally full-time traders with only a part-time interest in farming. In Bumban and Gbendembu such traders are heavily involved in agricultural produce marketing, especially palm oil and palm kernels. In addition, they were recognized as owners of large worehs or cattle pens. It is not uncommon to find a wife or two of such big traders to be exclusively concerned with establishing and maintaining trading networks in Freetown and the diamond districts of Kono and Kenema in the Eastern province. These women traders are generally involved in rice marketing during the harvesting period, and again in the 'hungry season'. During the rest of the year they tend to be more interested in transporting and selling dried fish and imported goods. Transport operations, though not yet common, are beginning to be a feature of the business complex operated by these traders.

In Matotoka, the large traders were mainly involved in coffee marketing. One such businessman has a network of 'buying agents' in the villages surrounding Matotoka from whom he acquires the bulk of his produce. The ownership and operation of passenger vehicles, especially taxi cabs plying local routes, is a regular additional activity of such traders in all these villages.

(ii) Another category of people involved in village money lending is local political authorities. This includes paramount chiefs, local members of parliament, section chiefs, native court administration members, other sub-chiefs, and village-level political activists. A characteristic of this group of people is the fact that they command considerable prestige, power and status in their respective communities. It is important to note that considerable variation is possible within this category as regards the potential influence they may carry. Thus whereas in any give chiefdom a paramount chief's influence may extend over the entire chiefdom, section chiefs in general have a restricted sphere of influence. This is not to imply that local level power struggles are not present. It is possible, for example, for a section chief to be more influential in real terms than the paramount chief. Similarly a local member of parliament may be more influential than any one or even all of the paramount chiefs within his constituency. Power struggles, producing considerable grass-root conflicts, are not uncommon. Thus while at any given moment horizontal 'integration' and 'alliances' may exist, there is much potential for grouping and regrouping amongst the political elite group as individuals struggle to build up followings at the expense of political rivals. Money lending is an integral part of this recruitment process.

(iii) A third category of money lenders is made up of 'village scholars'. This group includes teachers, pastors, Muslim holymen and Quoranic scholars. These latter have generally achieved the pilgrimage to Mecca, thus returning with the religious status of Alhaji. As a result they command substantial respect and are recognised as both knowledgeable and godly people. The institution of pilgrimage itself has proved a considerable attraction in the wider Sierra Leonean society in recent years.[1] Women from well-to-do families have been prominent as pilgrims even though the Muslim religion does not appear to favour women especially. It is possible that in both local and national contexts growth of interest in the institution of pilgrimage relates to ways in which prestige then connects to consequent economic gains. Whatever the cause, 'village scholars' constitute an important source of credit for small farmers in the study area. Scholars have a reputation for honesty and the technical book-keeping skills to maintain a proper, trustworthy, record of relevant transactions.

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1 - This interest, as in contemporary Nigeria, also extends to Christians, who favour pilgrimages to Israel.

The classification followed above is not meant to imply any water-tight compartmentalization of the activities of village money lenders. Thus for instance in Gbendembu a prominent money lender turned out to be a businessman, a chief and a leading member of the village group of scholars. The key point, however, is that money lenders may have a variety of aims stemming from their social and political interests, in addition to financial motivation, when they advance credit. The greater success of non-institutional sources of credit, as reported by Moinuddin (1969) is in all probability bound up with the money lender's commitment to capitalize on opportunities and constraints in local politics.

To achieve political and social influence through money lending he introduces a range of motivations and calculations, and a complex series of sanctions governing repayment, which are entirely, or largely, absent in the context of institutional credit. The mechanics via which the village money lender achieves his economic and political goals with the minimum of conflict was succinctly summarized by the 'All India Rural Credit Survey' (1955) thus:

> First, there is little that escapes the money lender's eye in the circumstances of his debtors or of those who may one day be his debtors. What cooperatives merely postulate, he actually possesses, namely a local knowledge of the character and the repaying capacity of those he has to deal with. Second, he has different degrees of hold on those to whom he chooses to lend. . . They are - . . . in each case related to how the debtor is circumstanced in the village (my emphasis)

Thus the village money lenders would appear to assess each case of credit advanced on its own merits (and 'merit' here includes more than just economic factors). Because the criteria for judgement vary from individual to individual depending on the political objectives, for example the attainment of village headship, and the potential debtor's usefulness in supporting this cause, interest rates were found to vary considerably (an economic analysis of the Bottomley type would suggest greater local uniformity).

Discussion with two prominent local money lenders confirmed that part of their explicit aim in credit provision relates to their desire to maintain 'high rank' and political authority in the community which in turn allows them to extract surplus from community members via 'customary' institutions such as labour groups. As noted elsewhere, labour groups are often presented as based on reciprocity principles

designed to help contributors on equal terms (c.f. Burnham, 1980). Observation of work groups during fieldwork suggests that within the framework of reciprocal work arrangements, it is the actual use of the time sharing principle that is critical for most farmers. Thus in terms of 'strategic' application of the time-sharing principle implied by reciprocity, it would appear that village elites can manipulate labour groups to their advantage. The combined political influence, prestige and economic muscle of a particular money lender in Gbendembu was suggested as a reason for a 'company' labour group working for 3 days consecutively during the transplanting period. In this instance it was clear that only a fairly large body of a disciplined labour would have prevented a major crop failure arising from late transplanting. Because of his position as a credit agent and trader-cum-businessman-cum-chief he was able to bring successful pressure to bear on the leadership of the work group to avert such a disaster. But this meant that the interests of other less powerful members of the work group, who were entitled to the same timely service in chronological terms were overshadowed. It was no surprise to learn from village money lenders at a later stage that they tend to be fairly flexible in charging interest rates on loans to some young men with great capacity to organize their peers. Thus, as argued elsewhere, in strategic terms village work groups may be considerably less reciprocal in character than is generally supposed (c.f. Finnegan, 1965; O'Laughlin, 1973; Jackson, 1976; Firth, 1979; Burnham, 1980). Clearly therefore village money lending can be utilized discriminately to achieve far more than mere monetary gains.

Another aspect of money lending revealed through informal discussions related to the notion of variable credit terms for different debtors. The comments supplied here suggest that credit is a way of playing local politics in one's favour. Thus for example, in a situation where there is a political struggle between different factions e.g. different family groups competing in a chieftaincy election, credit can be used as a political weapon, through the manipulation of interest rates. Thus it is possible for one debtor to be charged only a notional interest rate if it is thought (by the lender) that the debtor's support in such a struggle may prove decisive for the money lender. In a later section it will be shown how the use of indirect approaches by I.A.D.P. may give rise to the use of the available credit as a weapon in local politics.

Kinship considerations provide another instance of non-economic distortion of interest rates. In Gbendembu cases were reported in which relatives were advanced loans

on no-interest terms. These were, however, exceptional cases and usually involved money needed for expenses relating to accident or illness. On the other hand, borrowers were charged rates varying between 25% and 50% per annum if 'we believe that the money will be invested in business rather than handling emergencies like illness'. Informants also revealed that higher interest rates were charged on longer term loans than on short term loans. In the latter instances it appears that village money lenders conceive of 'interest' as a fixed sum charged on a pre-determined fixed amount. Typical periods quoted for long-term loans ranged from 1 to 3 years and involving amounts ranging from Le. 50.00 to Le. 200.00 or more.

In a study of indigenous cooperatives in Liberia (mainly among rural communities) by Massing (1974) it was shown that these kinds of institutions also had a range of interest charges. For example money borrowed by members for a period of about 3 months attracted an interest of about 13%. By contrast, a non-member borrowing the same amount for the same period was charged nearly four times as much interest (about 50%).

Two conclusions may be drawn from our discussion thus far. These are:-

(i) that both the value of interest rates charged and the time over which they apply can vary for different groups of debtors;

(ii) that credit can be used, through the manipulation of interest rates, to promote the interest of a particular class in society. (Thus, for example, Massing's (1974) data would suggest that interest rates charged by Liberian indigenous savings cooperatives to members varied according to duration of loan whereas interest rates for non-members were reported to be high irrespective of time period over which repayment was agreed).

In the foregoing both the social and political dimensions of rural credit systems have been subject to examination. It has been suggested that credit is capable of manipulation to an extent that it is a dominant factor in attempts to reinforce non-capitalist or merchant capitalist relations of production in villages. Below, an attempt is made to show how crdit becomes part of the complex of forces which reproduce village society. Discussion focuses on Bumban as it was here that the greatest opportunity to observe this phenomenon showed up during fieldwork - namely, in the course of preparations for the Gbangbani society.

Social science analysis of African secret societies has been characterized by a desire to explore the esoteric character of these institutions (c.f. Little, 1949; Harley, 1941; Brandt, 1977). The results, not surprisingly, have been frustrating and consequently

the analyses have concentrated on either the educational value of secret societies (c.f. Little, 1966) or their role as cross-cutting institutions designed to complement political leadership and promote frictionless equilibrium in village social organization (c.f. Hortan, 1971 : 101-103). Common sense suggests that attempting to explore the secrets involved represents a contradiction in terms. For if these societies are secret, in the sense of possessing deliberately guarded secrets, then only loyal members would have access to them. The code of conduct implied by loyalty to an institution would make it unethical to reveal such secrets to non-members either verbally or in print. It is on the other hand more useful to focus on the fact that a secret exists, and the social organization thus engendered. Thus it is argued here, with Murphy (1980), that secrets serve as boundary mechanisms which in turn provide for the process of social reproduction. The process of a 'secret' society being renewed from generation to generation serves as a mechanism for reinforcing patterns of dominance and dependence within the wider context of society at large. The class implications of 'secret' creation was succinctly argued by Mendelson (1967 : 22) thus:

> . . . what matters, then, is not so much the particular thing that is kept secret as the fact that that same kind of secret is created and that it pertains to the prestige and privileges of a sex or age group within the larger society. The secret here is a separating or distancing mechanism between a leading and a subordinate group . . .

The aim of the following paragraphs therefore is to elucidate the nature of the interaction between credit and the Limba secret society known as Gbangbani in what Fortes (1958) characterizes as the process of 'social capital' reproduction in social systems. Fortes (1958) defined social capital as the 'total body of knowledge and skills, values and beliefs, laws and morals, embodied in the customs and institutions of a society and of the utilities made available for supporting the livelihood of its members through the application of the cultural outfit to natural resources'. This definition is adopted in the following discussion because it helps focus on the interrelatedness of forces responsible for social reproduction in the study area.

The Gbangbani Society is the most important form of secret association among the male members of the Limba community. Initiation into the society is considered an essential step into attaining sociological maturity (c.f. Finnegan, 1965). The equivalent form of society for the Temne and Mende ethnic groups is the Poro society - covering a much larger geographical area than Gbangbani. Women are generally

restricted to the Sande or Bondo Society. Gbengbani sessions are held once every five to seven years, partly because of the need to have a reasonable number of potential initiates to justify the organizational resources, e.g. entertaining large numbers of guests, involved. During the fieldwork for this study, Bumban was preparing for the 1980 Gbangbani session.

Recalling Table 5:2 farmers became indebted partly as a result of the need to fulfil vital social and religious obligations. Important ceremonies and rituals, like Gbangbani serve as cultural bench marks in the lives of community members, and are thus the kind of occasions when such lending occurs. In this instance, families with children for the 1980 Gbangbani session were observed to 'store' their 1978 and 1979 rice surpluses with wealthy farmers. This normally took the form of lending to chiefs or in some cases ritual experts in the Gbangbani Society, such as the village blacksmith. The latter is held to play a dominant part in the organization of the Gbangbani Society. It was no surprise therefore that members of families with children for the 1980 initiation offered to contribute labour on the farm of the village blacksmith in the course of the survey. When asked to explain why their surplus rice was 'stored' with local elites and ritual experts respondents explained that this was to ensure that adequate amounts of rice was obtained at the time of the initiation to cover the appropriate ceremonies and initiation fees. It is important to note that such rice 'loaned' to wealthier farmers was reported to earn no 'interest' when repayment is made.

One of the aims of credit under the capitalist mode of production relates to the need to generate a re-allocation of productive resources in an economically rational manner. The situation described above sees interest and credit intricately meshing into the process of reproducing a society which is not unambiguously capitalist . (c.f. Little, 1949, 1966;Meillassoux, 1960; Murphy, 1980). In a parallel case Murphy (1980) maintains that the control of youth's labour and services is a major economic benefit that accrues to Kpelle elders as a result of poro society activities. Such control of youth's labour product is categorically attributed to the possession and withholding of secret knowledge by elders. In Bumban, it appears that wealth inequalities as well as unequally distributed access to 'knowledge' can play an equally vital role in explaining such relations of production. For instance in Bumban, households without rice but wishing to have a child initiated sent that child to the household of a 'wealthy' man where he would 'repay' his initiation expenses by working for that household for a period. There is little guarantee that if credit funding is increased, activity of this sort would lead to any economically rational re-allocation of resources.

Extensive participation of the Bumban migrant community in Freetown and other towns in the 1980 Gbangbani society celebrations is another dimension of the process by which village society promotes the process of reproduction of 'social capital'. It is on occasions such as these that there are opportunities for the migrants to reinvest

part of their urban wealth in the upkeep of both the social and material structure of the village (though as pointed out elsewhere such reinvestment may only be a fraction of village resources already allocated to the urban sector). The point being established at each point in this analysis, however, is that the various processes described so far would appear to provide the mechanics for reinforcing the reproduction of political and economic differentiation in rural societies. Thus whereas Meillassoux (1960) emphasises the elders' redistribution of resources stemming frim the activities associated with secret societies, the contention here is that elders gain substantial economic, political and social status advantages in organizing secret societies. Again it is important to emphasise the point that in this kind of context credit may not necessarily serve the same role it serves in capitalist contexts i.e. economically rational re-allocation of resources. Accordingly Karimu and Richards (1980) have argued that World Bank belief in the development potential of a rural credit programme through the implementation of the I.A.D.P. may be misplaced, given that credit and debt are much to do with the need to fulfil socio-cultural obligations, even if then complicated by periodic misfortunes such as poor harvest.

To sum up, we have argued the contention that secret societies and credit systems are intricately linked and constitute an institutional framework for reproducing social and political relationships. The suggestion has been made that the Gbangbani society, in so far as it serves as a medium for interaction between different groups of people in Limba society, is capable of reproducing inequality in the social, economic and political domains of local life. The issue that remains unresolved, however, in terms of the present study, is the extent to which secret societies and the inequalities they reproduce but disguise, such as those between elders and youths (see Murphy, 1980), links into the process of class formation and class conflict in the wider context of Sierra Leonean society as a whole. This is an issue for further study.

In the foregoing, an attempt has been made to examine the non-economic factors that enter into rural credit relations which a purely financial model is inadequate to cover. In the process the philosophy of the World Bank as a major provider of rural credit in African agricultural development efforts has been presented and critically evaluated. The Bank aims to replace local merchant capital as provided by village money lenders. The point needs to be emphasised that the Bank's credit programme has meant entering a field of complicated social and political process within which the operations of local merchant capital are embedded. Not surprisingly

the I.A.D.P. credit programme has encountered major difficulties. For any sustained impact to be realized, a more adequate analysis of the political economy of rural credit systems is now needed. The final part of this chapter attempts to present such analysis, illustrating how I.A.D.P. loan capital locks into the local credit nexus.

5:5 IADP Loan recovery and the rural Political economy

One of the stated objectives of the I.A.D.P. is the establishment of a 'sound credit system' in order to facilitate the evolution of an agricultural cash economy. This credit component is especially designed to attain the following goals:

(i) Provision of 'cheap credit' to poor farmers in order to curb village usury;

(ii) to establish a revolving credit system which would then allow the extension of credit facilities to a larger proportion of the farming population;

(iii) to stimulate local investment in agriculture in order to help achieve national self-sufficiency in food production;

(iv) to incorporate the peasants in the cash sector of the national economy.

(v) to induce the evolution of a desirable loan repayment discipline among farmers.

To achieve the above objectives two types of credit facilities are provided. These are:

(a) Seasonal loans at 10% interest repayable at the end of the cropping season in which loan is advanced;

(b) Development loans which are designed to cover the 'capital' costs of farm development and attract an interest of 8% per annum, with a one year grace period. These development loans are repayable in 5 annual instalments.

To ensure actual capitalization of farming (rather than funds being reinvested in, say, trade) the bulk of I.A.D.P. farmer credit is given in the form of inputs such as fertilizers, improved seeds, farm tools and pesticides. Cash is also provided as part of the package to cover the labour costs of running the farm in subsequent seasons. When a loan is granted then technical demonstrations of new cropping practices are provided by the extension arm of I.A.D.P.

Data on loans extended are presented in table 5:3, and this summarizes the I.A.D.P. loan recovery position as reported in its Quarterly Report of June, 1979. The figures have been disaggregated by crop type and administrative areas demarcated by the Northern area I.A.D.P. Out of a total of Le. 226,588 due for repayment of seasonal loans on rice and groundnut only Le. 10171 had been recovered. This implies an overall recovery rate of circa 50%, with a wide range of variation from area to area. The I.A.D.P. repayment position compares rather favourably with an overall recovery rate of 35.3% for short term loans advanced by other institutional sources in Sierra Leone as estimated by Moinuddin (1969).

Data derived from the Bank of Sierra Leone pilot Survey (1968) allow comparisons to be made between institutional and non-institutional credit sources with regard to loan repayment. Granted the assumption that 'short term loans' in the above study are in effect substantially the same as the I.A.D.P. 'seasonal loan' then the following analysis is relevant.

The Bank of Sierra Leone pilot study (1968) revealed that periods of repayment were extended by creditors in cases where loans were not repaid on time. Thus even though I.A.D.P. credit is generally comparable to other similar institutional sources of rural credit in respect of loan repayment, non-institutional sources will appear to be substantially better on this count (see table 5:4). The project's recovery targets were set at 80% for rice seasonal loans and 50% for groundnut for the 1978/79 cropping season[1]. Table 5:3 shows that the rice target was underachieved by about 30%. Given the low interest charges on project loan capital it would appear that only a regularly maintained high rate of loan recovery is likely to generate a sustained ability to extend credit to other farmers. But even worse in terms of the loan recovery evidence is the implications for the Project objective of inducing desirable loan repayment discipline among farmers. Project officials tend to view this problem in 'moralistic' terms i.e. it is assumed that farmers have inherently undesirable attitudes in relation to credit transactions and seek opportunity to practice what in effect amounts to fraud. On the other hand what

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1 - The project senior extension officer explained that the lower recovery target for groundnut was decided because of late rains which was thought to adversely affect groundnut yields in 1978/79 . In addition, the high 'down-time' of project vehicles meant that many farmers received their seed groundnut late.

Table 5:3 IADP loan recovery for rice seasonal loans, June 1979.

Administrative Area	Amount Due (in Leones)	Amount Recovered (In Leones)	Percent recovery
Kholifa-Tane* Chiefdoms	44,586.29	30,010.46	67%
Bombali Sebora-Paki Masabong Chiefdoms	29,683.60	11,007.79	37%
Biriwa-Safroko* Limba Chiefdoms	21,691.53	9,599.03	44%
Gbendembu * Gowanhun-Makari Gbanti Chiefdoms	22,321.68	6,669.20	30%
Sanda Tenraren-Gbanti Kamaranka Chiefdoms	26,745.41	15,768.61	59%
TOTAL	145,028.51	73,055,09	50.4%

Source: IADP Quarterly Report, June 1979

* Administrative areas in which village surveys were carried out for the present study.

Table 5:4 Loan recovery rates for Non-institutional Credit Sources

Source	%recovery
Friends and relatives	62.7
African Traders	85.2
Non African Traders (Lebanese)	79.2
African Farmers	68.5

Source: Bank of Sierra Leone Economic Review, 1969.

has not been sufficiently considered is the structural context in which loan transactions between farmers and the project are made. An attempt is made here to show that moralistic 'attitudinal' explanations are inadequate and that part of the problem is that credit probably goes to the wrong sort of people. Thus the existing rigid framework of project bureaucracy and the indirect approach to recruiting borrowers via local chiefs is shown to discriminate against the interests of small farmers who, it is argued here, are more likely to show a 'desirable' loan repayment disposition. The following paragraphs explore the complex of issues raised by evidence in table 5:3 and Figure 5:1 concerning the manifest ineffectiveness of the credit component of the project.

5:6 The Conventional View of Farmers' understanding of credit transactions

The Project's own theory of poor credit performance is based on the notion of reluctance on the part of farmers to repay credit which in turn arises from their lack of understanding of credit arrangements. This view is succinctly summarized in a recent project report thus:

> Loan recovery grinds ahead very slowly. Despite numerous meetings, pleas and gentle threats farmers are still reluctant to repay loans (my emphasis) (I.A.D.P. Report, 1979).

Such a line of explanation is a questionable over simplification. It is also suggested that resultant policy decisions to apply 'firmness' in order to dispel the mood that 'it is government money we do not have to repay it' (I.A.D.P. Quarterly Report, June 1979) are inappropriate.

Given the widespread experience of local credit arrangements that have been referred to in relation to other studies it is suggested that farmers understand credit commitments better than they are sometimes prepared to admit to project officials. Contrary to the official theory field survey results show that both project and non-project farmers do not see the Northern Area I.A.D.P. as a government 'handout'. The majority correctly identify it as a commercial enterprise as opposed to a missionary or Government welfare scheme. Table 5:5 summarizes the data relating to farmers' responses when asked to choose to categorise the project as 'Mission', 'Government' or 'Business' venture. Over 97% of all farmers, project and non-project,

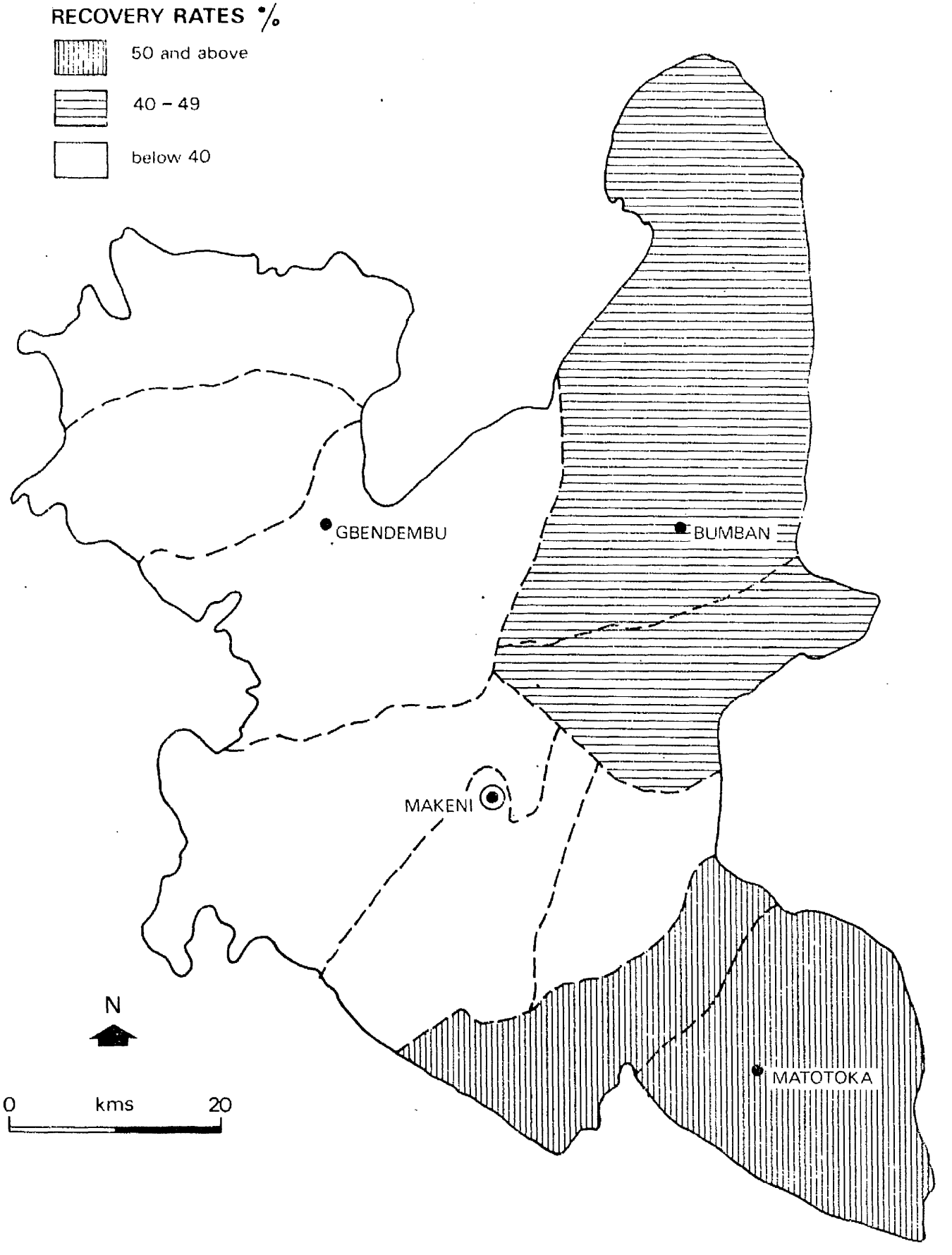

Fig 5:1 The pattern of IADP Seasonal rice loan recovery,1979.

Table 5:5 Farmers' view of the Northern Area I.A.D.P.

Locality	PROJECT FARMERS				NON PROJECT FARMERS			
	No. of farmers classifying I.A.D.P. as :				No. of farmers classifying I.A.D.P. as :			
	Mission	Govt.	Business	Don't know	Mission	Govt.	Business	Don't know
Bumban	1	-	18	-	-	-	17	1
Gbendembu	-	-	17	1	-	-	18	1
Matotoka	-	-	18	-	-	-	18	-
Total	1	-	53	1	-	-	53	2

Source: Own Survey, 1979

view the I.A.D.P. essentially as a business enterprise. Nearly all the sample members committed to this view added by way of comment (when asked why they had chosen this categorization) that even though project interest rates were low compared to other sources nonetheless interest was charged on all goods and services offered as would any other business organization. Some farmers even offered to demonstrate what the 10% interest represents in local currency and how it compares to 'interest' charged by local money lenders. Thus one typical explanation was:

> 'The 10% means that in every one leone (Le. 1.00) worth of help you get from I.D.A. you pay ten cents more at the time you pay back. When we borrow from 'big men' we pay twenty five cents more on every one Leone at the time we pay back'
> (Source: Field notebook, interview A6 in Motoka on 9/9/79 with a sample project farmer)

Evidence such as this presents a challenge to the basic assumption of the I.A.D.P. programme concerning the need to 'monetize' local agricultural relations of production. It is important to ask why the I.A.D.P. (and the World Bank) should assume that peasant farmers are ignorant of the operation of monetary institutions and of policy designed to demonstrate one of the processes. The explanation suggested is that this arises from the initial acceptance of a 'dualistic' model of development i.e. the notion that Third World societies are characterized by a two-part economic structure with a 'traditional' (and hence undesirable) and a 'modern' (good and acceptable) sector. In this formulation development is conceived as a progression from a primitive, marketless custom-bound state to a money-based, rational, and technologically advanced state. Thus the existence of an isolated, cash transaction-free sub-economy is uncritically assumed as a characteristic of rural underdevelopment. When the I.A.D.P. makes it a stated objective to 'facilitate the process of incorporation of the small farmers into the cash sector' (I.A.D.P., 1974) it echoes the underlying assumptions of all dualistic theories. Material presented elsewhere, relating to the economic history of Northern Sierra Leone is enough to suggest that assumptions of dualism are simplistic and therefore to be rejected.

The official line of explanation becomes even more questionable when the detailed evidence on the nature of the present operation of rural capitalism is examined. In addition to material presented elsewhere in this chapter, material in table 5:5 confirms that more is involved in loan default than simple unfamiliarity with the workings of a monetary economy coupled with improvidence and dishonesty. Rather evidence such as this appears to suggest that high rates of default are probably linked with the technical design of the project credit.

During fieldwork two further questions were then included to explore sample farmers' ability to 'predict' the consequences of default (see table 5:6). All household heads in the sample correctly anticipated project liquidity problems as a major result of default. In Bumban, where late delivery of inputs by the project proved to have been a major issue, farmers were unanimous in predicting that default would adversely affect the timing of farm input delivery to new as well as continuing farmers. It is interesting to note that sample farmers correctly anticipate the impact of loan default on the attainment of one of the Project goals for the credit programme noted earlier, i.e. to create a revolving credit fund to reach a growing number of farmers. This was the second most frequently cited explanation of the consequences of default offered. There are few grounds for supposing therfore that farmers are ingnorant of the consequences to the community at large of loan default. Where farmers attempted to avoid contractual obligations, it often proved to be the result of lack of forward planning. This in itself was not, however, a consequence of 'ignorance' but of the pressure created by existing relationships of indebtedness. It has already been shown that project borrowing is only one element in a complicated nexus of credit relations. Thus project commitments become aggregated with other vital debts (such as debts necessitated by the desire to participate in secret society rituals when a child in the family reaches initiating age. Delay in initiation at such times may mean waiting for another 5 to 7 years for the next session of the society).

Although 'hard data' are difficult to come by discussion with informed' members of the community[1] would appear to confirm Mosley's (1979) assertion that local indebtedness rates are high, with typical figures ranging between Le. 50.00 and Le. 150.00 per farmer. To help form some approximate impression of frequency and level of prevailing indebtedness in the sample villages, farmers were asked to state whether or not they have heard of cases where other farmers in this area had had to return to local money lenders in order to be able to repay project loans. The survey was restricted in scope in that it covered only project households and was concerned with I.A.D.P. loan repayments as opposed to other vital reasons for becoming indebted. It is important to have these limitations in mind when examining table 5:7. It is nonetheless clear that in all three sample villages there was considerable awareness of cases of further borrowing from local money lenders to repay I.A.D.P. loans.

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1 - This included recognised local money lenders, chiefs, important ritual 'experts' and other members of the village hierarchy, including women leaders.

Table 5:6 Farmers' explanation of the consequences of loan default

'Predicted' Consequence	No. of times cited by sample farmers
Project will face financial problems and possibly collapse	93
Late procurement and delivery of farm inputs	48
Limit expansion of Project to other villages	73
	214*

Source: Own Survey

n = 111

* some farmers cited several factors

Of 55 project farmers interviewed, 50 claimed to have heard such cases. Taking the responses of all three sample settlements together, only 9% of household heads interviewed denied any knowledge of such cases, 58% chose to describe the known cases as 'few' and 33% as 'many' (table 5:7)

The figures appear to suggest a higher rate of subsequent additional indebtedness among the Matotoka farmers than in either Bumban or Gbendembu. The result is consistent with evidence elsewhere in the thesis to suggest that Matotoka farmers as a group are less well-off than farmers in the other study villages. Matotoka farmers interviewed explained subsequent borrowing to repay I.A.D.P. loans in these terms:

> The 'big men' have threatened that failure to repay project loan will result in court action. And it is common knowledge that when a farmer is taken to court he may be liable to pay not only the I.D.A. loan but also a fine. To avoid this some farmers would borrow money from local sources to repay Project loan and avoid the embarrassment of court action[1].

The point is therefore that local 'big men' act through the local court system as I.A.D.P. debt repayment enforcers. Since this means a fine as well as repayment of the loan it is judged better to turn to local sources of credit (often offered by the same 'big men'). In short Matotoka farmers appear to be drifting back into the grip of village usury. Thus the project finds itself, perhaps, in the position of exacerbating the local indebtedness its credit

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1 - Source: Tape recorded interview with Project sample farmer in Matotoka on 10/11/79. Extracts from the second interview of tape A1. This farmer also volunteered to reveal that he resorted to such borrowing for loan servicing in 1979 when his harvest was poor.

Table 5:7 Knowledge of cases of subsequent borrowing from local money lenders to repay I.A.D.P. loans.

Locality	Not Known	Known	
		'A few'	'Many'
Bumban	3	13	3
Gbendembu	1	12	5
Matotoka	1	7	10
Total	5(9.1%)	32(58.2%)	18(32.7%)

Source: Own Survey

programme was designed to do away with. One prominent money lender confirmed that:

> An increasing number of my people come to me for credit in connection with IDA loan repayment drives. Last year (1978) there were more people in need of credit than I actually had money to help out [1]

Far from being despised as a 'usurer' such a man is able to legitimate these activities on the grounds that he cannot sit by and see 'relatives' taken to court and disgraced over the matter of IADP credit. Thus in the same interview session he noted:

> 'I pity these people very much, especially when they get disgraced by the local court and so I try to help them. Many of them only pay me a small interest of 25 cents for every Le. 1.00 I give them. I get paid back either in cash or in labour or in goods'
> (Source: Ibid: 17/11/79)

The interest rate of about 25% implied here pertains to an average 3 - 6 months period. Subsequent borrowing for debt servicing are consistent with earlier arguments that poor loan recovery reflects genuine difficulties experienced by farmers because existing production constraints severely limit the attainment of the original potential rice yields assumed by the Project. For Gbendembu and Bumban project farmers increased rice sales appear to be insufficient to cover loan repayments and both cattle wealth and profits from trading activities have to be mobilized when repayment is due.

Altogether then it becomes clear that loan default is more appropriately analysed in a structuralist rather than a moralist framework. Prior to attempting an alternative analysis of loan default, we shall briefly examine the underlying assumptions concerning the labour process in the Project area.

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1 - Source: Field Note book - Interview A7 with Pa Alhaji of Matotoka on 17/11/79. The interviewee is a prominent local Quaramic Scholar, businessman and money lender. He is neither a member of the sample in Matotoka nor registered with I.A.D.P. because 'business is more profitable than farming' he revealed.

5:7 A critique of the Project assumptions about the local labour process

It has already been argued that net gains from project involvement realized by farmers tend to be substantially smaller than the planned targets (c.f. Karimu and Richards, 1980). This appears especially true of the swamp component in the Northern IADP package. It is argued here that part of the reason for poor results stem from the phenomenon of 'conceptual importation' in contemporary development planning. This allows for the universal application of packaged solutions to rural development problems. As already indicated unrealistic assumptions about productivity levels were made at the planning stage. Even returns per hectare were overestimated. The assumptions in relation to returns to labour were even more sanguine (c.f. Spencer, 1975). But perhaps even more significantly labour calculations appear to have been based on a capitalist conceptualization of labour as a 'commodity' costable in man-hour unit terms. This fails to face up to the reality of ways of 'transacting social relations' built into the labour process in a non-capitalist context (c.f. Richards and Sharpe, 1981 and Sharpe, 1981). The cultural milieu in which work takes place in the study area places a very high premium on public recognition of the social value of work (capitalist relations of production, by contrast, tend to disguise this aspect of the labour process). Consequently workers are not treated as commodities assuming human form. In this kind of framework, the social organization of labour and the cost of labour associated with that organization derives from principles more complex than a simple financial perspective would allow. To the extent that 'society' is reproduced via the labour process food and entertainment at the work place take on a much deeper significance than their 'cash equivalence' if costed up (as is common in normal economic analysis) simply as part of each labourer's daily wages in kind.

By paying inadequate attention to social (as opposed to economic dimensions) of labour supply, project planners substantially underestimated the true cost to the farmer of the labour component of a technology which requires him to work in an 'anti-social' way. Farmers maintained that swamp work is tedious precisely because the social pay off is low for reasons discussed elsewhere. The importance of work groups in the study area has already been noted in the chapter on labour supply. One of the critical conditions which will make a labour group available to a farmer in future would appear to relate to the quality of food and entertainment provided by the farmer

for whom the group works. Labour group leaders indicated that it is not uncommon for clients to be fined or sanctioned otherwise for providing what is considered sub-standard food and entertainment when a work party is called. The danger of treating agricultural labour in this sort of context as the equivalent of labour hiring within a capitalist mode of production is that it underestimates the costs of meeting the social requirements of the labour process. In this kind of circumstance the farmer's repayment capacity is affected because his labour does not generate viable social and political results which would ease his labour recruitment problems in subsequent seasons. It is worth noting that a similar criticism of unrealistic assumptions concerning the social organization of work is made by Hyden (1980 : 110) in the case of the Ujaama planning in Tanzania. He notes that such unrealistic approaches are 'quite typical of policy making officials who are not personally exposed to the structural constraints of peasant farming'. Some of the broader issues underlying poor credit performance will be explored in the following section.

5:8 An alternative explanation of poor loan recovery

In order to understand the reasons for high default rates, it is necessary to attempt to characterize the type of farmer involved in the IADP. A key feature is that the type of farmer adopting project swamp cultivation technology is often found to be well-advanced in the process of 'disengagement' from local interests and is moving towards a more urban-based, trade-oriented type of activity. As argued in chapter 4 such farmers often have larger households on average but with many more people engaged in non-farm occupations. Perhaps the project is initially attractive because it facilitates 'disinvestment' in local social institutions and helps capitalization of new social and political networks. This is typically achieved via an increasing emphasis of spending in the education of children as well as financing urban-based trading ventures. Thus a high rate of uptake of available credit appear simply to suggest that to the extent that project credit frees resources previously tied up in subsistence agriculture for reinvestment is social and educational expenditure, high rates of rural outmigration, and their associated labour supply problems, will persist, leaving existing agricultural relations of production unchanged. But if so, the labour requirements of the new technology and a desire to be 'urban oriented' combine to create only a fatal 'contradiction'. It is thus probable that many farmers the project is reaching currently are preoccupied by a shift of crucial resources into the non-agricultural sectors of the economy and if successful are unlikely to be looking for further agricultural credit. If this is the case then

their reduced commitment to loan repayment is an economically 'rational' response dictated by the structure of the Sierra Leone economy in which urban investments pay better than rural. To set up an explanation in terms of attitude, as for example this is Government money 'we do not have to repay it' is unnecessary.

Thus far the analysis has explored structural contradictions operating at the level of the household involved in the process of social change. This emphasis, however, is not meant to imply that 'structural contradictions' only exist at this scale. The nature of the articu lation of project policy objectives, on the one hand, and the rural political economy on the other hand, presents a contradiction at the macro-social level. Project aims include the release of the small farmer from the grip of village usury. On the other hand the project makes no attempt to define the scope of this problem either in theoretical or practical terms, example by estimating the number of debt relationships between private money lenders and farmers that ought to be broken in such an exercise. The project also lacks basic information on the demographic characteristics of farm households, the dynamics of the relationships between different groups of farmers and the interaction of the farming community with other sectors of the Sierra Leone economy. The net effect of this data vacuum is that the policy for recruiting is seriously under-specific. In this next section we try and explain who the project recruits, why these are not necessarily the best groups available (in terms of commitment to farming) and how it is that the project is not able to easily 'revise' its recruitment policy because several assumptions require to be more closely defined and examined.

In order to facilitate adoption of the package the project relies to a considerable extent on the rural elites, especially males of political and economic substance sometimes known as 'big men'. It is these 'big men' who recommend and endorse prospective farmers. The implicit assumptions embedded within this key aspect of recruitment policy are that:

(i) Village level elites are neutral in discharging such responsibilities and operate to maximize benefits to their societies;

(ii) share project desire to stem usury;

(iii) have the power and willingness to enforce loan repayment on behalf of the project.

An immediate contradiction stems from the fact (discussed earlier) that these local elites tend to have a vested interest in maintaining existing credit arrangements. As shown above local credit transactions are likely to be economically beneficial to creditors but in addition serve as a mechanism for reinforcing those patron-client

relationships upon which political prestige rests in the first place. It is probable that in pursuit of extending this patronage, sometimes village 'big men' first present small farmers as 'credit worthy' to the project. The interests of the project and the local elite coincide provided project predictions of yield and 'cost' are realistic. It is already clear that in many cases they were leading to an acutely embarrassing situation in which the Project requires local chiefs to put pressure on their clients for loan repayment, while the clients are too unsuccessful to be asked to pay. Local 'big men' are anxious to appear responsible to the project staff and are therefore likely to use more than a mere 'gentle threat' (IADP Report, 1979) in their loan recovery drive. During fieldwork a case was observed in which an important chief threatened a group of farmers with arbitrary imprisonment if the latter failed to repay their IADP loan in full within a three day deadline. Since this would undermine the chief's political credibility there is every incentive (even where he was not lending money previously) to offer advances to his clients to save mutual embarrassment.

Table 5:8 summarizes the data on sources used by IADP farmers for raising money to repay credit in the year up to the date of the survey. Between 12% and 41% of all sources cited is accounted for by the sale of agricultural produce such as coffee, palm oil, palm wine, tobacco, benni seed, firewood and citrus. Only 12% of repayments derived from rice sales in the case of Gbendembu sample farmers. A similar proportion (by value) was reported from livestock sources for the same sample. In Bumban, 17 household heads cited a total of 41 sources used in raising money to repay project loans. Over one third of all money repaid in 1979 was raised from the sale of miscellaneous (non-rice) agricultural produce. Only 29% of money repaid appears to have derived directly from participation in the project. The implication of this is that whatever the impact of that technology it is not showing up in terms of major market surpluses of rice. It is suggested that this is partly because project technology is not as advantageous as originally hoped. But it is also clear that other factors, to do with subsistence requirements and the social and political 'profit' to be gained from local non-market transactions in food are also involved. These are now considered.

Table 5:8 Sources cited by Project farmers in raising cash to repay I.A.D.P. loan, 1978.

SOURCE	No. of times cited by sample in:		
	Bumban	Matotoka	Gbendembu
Rice sales from I.A.D.P. farm	11	6	3
Rice sales from non-I.A.D.P. farm	10	-	2
Groundnut sales from I.A.D.P. farm	1	-	-
Groundnut sales from Non-I.A.D.P. farm	2	1	-
Livestock	-	2	3
Money from trading	-	3	3
Borrowing	-	-	1
Sale of tree crops,	15	10	3
Others	2a	3	9b
TOTAL	41 sources (n = 17)	24 sources (n = 20)	25 sources (n =18)

Source: Own Survey, 1979

a - 1 Farmer cited the sale of bush meat; another cited wages derived from membership of the chiefdom administration court.

b - 3 out of this cited personal savings as source used in I.A.D.P. loan repayment

5:9 Impact of Project innovation on the 'hungry season' phenomenon

Annual food shortage is a widespread phenomenon in Sierra Leone and in the last decade an average of Le. 3 million has been used by Government to import between 30,000 and 40,000 tons of rice annually[1] (c.f. GDI, 1973; National Development Plan. 1974/75 - 1978/79). Despite such shortages, it has been noted elsewhere that considerable amounts of food are transferred from rural families to urban kin through a series of 'intra-family' transactions. (In chapter 4 the structure of such resource flows has been ana lysed and the conclusion drawn that, contrary to the widespread tendency in the development literature to concentrate on urban-rural remittances as representing a 'significant means for removing supply constraints to improved agriculture' (Rempel & Lobdel, 1978; Stark, 1980), the issue of rural-urban remittances is equally important, though much neglected topic). Do such remittances significantly increase the problems experienced by rural families? Does Project innovation contribute to reducing the severity of the 'hungry season' phenomenon or serve to increase the outflow of rice to urban areas?

To investigate this topic Project farmers were asked to report on whether they bought more, less or the same quantity of food for 'hungry season' maintenance in 1979 compared to the period before they joined the Project. (Tables 5:9a and 59b). There is a marked difference in response relating to this comparison between Matotoka on the one hand, and Bumban and Gbendembu on the other (Table 5:9a). In the former village, farmers reported a more favourable position overall i.e. the majority report reduced purchases. Overall farmers in these villages tend to fall evenly between those who report an increase in rice purchase since they joined the project and those who perceive a decrease in 'hungry season' rice purchase. Mototoka farmers explained that decreased rice purchase was attributable to the use of fertilizers and new seed which gave better

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1 - In an interview with the General Manager of the Rice Corporation in Freetown on 12/12/79 it was revealed that between April and November 1979 approximately 50,000 metric tonnes of rice was imported. The large increase was attributed to poor local harvest in 1978 as a result of late rains, especially for upland rice farmers.

Table 5:9a Present 'Hungry Season' rice purchases compared to level of purchase prior to joining the Project

Locality	Buy less	Buy more	same
Bumban	8	6	4
Gbendembu	7	9	2
Matotoka	14	5	-

5:9b Reasons cited for changes in 'Hungry Season' rice purchases

Locality	Good Harvest	Poor harvest	Loan repayment needs	Others
Bumban	5	1	-	8
Gbendembu	6	2	1	7
Matotoka	11	1	4	3

Source: Own Survey

results. This appears to relate to the facts that:

(i) Matotoka farmers are on the whole less 'urban'/trade oriented and more committed to farming (more household labour is devoted to farming here).

(ii) Urban directed rice remittances are smaller than in Gbendembu and Bumban.

In short project impact in Matotoka appears to be favourable in terms of improving subsistence during the 'hungry season' even if there are still unresolved problems at a commercial level. How is the observed pattern in Bumban-Gbendembu to be accounted for? Greater involvement with the urban sector has already been indicated. A further essential distinction between these two settlements and Matotoka is a greater degree of involvement with livestock. Cattle have been an important form of investment since the days of involvement in pre-colonial long distance trade in the Mabole valley region (Fyle, 1979a and 1979b). But the presence of livestock in the economy appears to have always posed a social problem between cultivators and Fula herdsmen (Turay, 1973). Conflict arises from damage done to standing field crop by livestock, many owned by rural 'big men' but cared for by hired specialist Fula cattle herders, and is a long-established feature of life in Bumban and Gbendembu. The relative unimportance of livestock in the economy of Matotoka is discussed more fully in chapter 6 (see table 6:4). The politics of 'livestock ownership' in the Mabole valley is an issue on which more specific research is needed. Nevertheless it is already clear that it is an issue fundamental in the political cleavage between the project's local sponsors and ordinary farmers. Thus most of the reasons cited by farmers in Bumban and Gebendembu for purchasing more rice now compared to before the project came related to damage done to their crops by livestock. Secondly, the possibility of livestock ownership allows for the intensification of wealth differences between farmers. Farmers short of food in the 'hungry season' are invariably those who have been impoverished by debt. Where cattle dealing provides the possibility of and incentive for wealth accumulation then indebtedness, impoverishment and hunger will, it is suggested, be the more marked.

A third factor of significance is that Bumban and Gbendembu send out more rice per capita to urban areas than Matotoka. The effect is to diminish local supplies with the likelihood that poorer farmers find themselves buying at higher prices in order to tide over the wet season shortage. It should be noted therefore that rice purchases for 'hungry season' maintenance are evidence of a process more complex than any inherent inability of these families to feed themselves due to technological 'backwardness'.

The 'hungry season' seems to be the more intense (for some farmers) in the two 'richer' settlements in the sample. This appears to suggest that the 'hungry season' phenomenon is not simply a 'rice shortage' problem. As argued by Johnny (1979) for Southern Sierra Leonean communities, the 'hungry season' can assume an important cultural dimension. Cultural activities like the Gbangbani society or the women Bondo society are occasions when large quantities of food are used to enhance one's political and social prestige in the community. Thus participation in such activities, considered vital for social reproduction, may itself induce shortage at a later stage in the farming calendar. Johnny's (1979) data show that Kogbotoma farmers produced enough rice for year round household consumption. Shortages arose as a result of either direct involvement in secret societal activities or as a result of the need to help relatives who were more directly involved. In general material in table 5:9b appear to underline the point that improved harvests have been a significant factor in the changed pattern of 'hungry season' rice purchases. This is an important aspect of project impact since evidence seems to suggest that poorer farmers first start to fall into debt as a result of 'hungry season' rice purchases.

Rice 'borrowing' for use as planting material is a common practice among rural families. Generally it is the better-off farmers that 'loan' rice to the poorer households. Unfortunately systematic comparative data were not collected for the non-project sample. Table 5:10 presents the results for sample project households on the issue of rice 'borrowing' for planting purposes. 34% of all project farmers (including practically half of the Matotoka sample) claimed to be short of seed rice at planting time. In Matotoka 4 out of the 9 households in which this kind of borrowing was reported cited the need to sell most of their own rice output earlier in the year in order to meet project loan repayments. This is evidence that some farmers are in extremely difficult positions with yields not as good as expected but experiencing pressure from the project - the 'gentle threat' mentioned in the IADP Quarterly Report, June 1979. (Poor harvest in a previous farming season was the second most frequently cited reason for borrowing replanting materials). On the other hand other farmers in all three villages are now in a better position as a result of project participation, explaining reduced borrowing of seed rice as the result of improved seed and use of fertilizers.

To sum up, it has been noted that both rural indebtedness rates and default rates on IADP loan are high. Contrary to the view that high default rates reflect farmers' inability to properly understand credit contracts, it has been argued that loan default is more likely to be explained by structural contradictions in the development process

Table 5:10 Rice borrowing for planting purposes among Project farmers in sample villages

Locality	No. of reported rice borrowing households	No. of reported non-borrowing households
Bumban	2	17
Gbendembu	8	10
Matotoka	9	10
Total	19 (33%)	37 (67%)

Source: Own Survey

and miscalculations concerning the profitability of the new technology. Since the project is bound not to interfere with the local political structures within which the small farmer has to survive it is not surprising that Project aims to 'salvage' the small farmer from village usury are unfulfilled, for usury is not a technical problem. In the end it is social and political.

CHAPTER 6

INCOME, EXPENDITURE AND FARMERS' INVESTMENT STRATEGIES

6:1 Introduction

The aim of this chapter is to present, describe and analyse the income, expenditure and investment data derived from fieldwork. The following specific issues will be explored:

(i) an analysis of the evidence for rural socio-economic inequalities. Particular attention will be paid to innovation adoption in relation to wealth differentiation in the study villages. It will be argued that IADP loan capital appears to be reaching farmers with not only greater diversity of income sources but also, and more importantly, who appear to have greater scope for reinvesting profits from agriculture into the non-agricultural sectors. One consequence of this, it is argued, is that a combination of the desire to disengage from farming by strenthening Urban-oriented activities and at the same time taking up project technology appears to lead to an irreconcilable contradiction for such farmers. The result, as already argued, is higher rates of default in areas of greater wealth, more involvement in off-farm activities, and historical evidence of long-established prosperity (see Fig. 5:1).

(ii) This chapter will also examine the famers' plans for future investment in relation to their current 'actual' expenditure and investment priorities. The implications of observed patterns for local agricultural development will be explored.

(iii) An attempt will be made to construct a framework for understanding wealth inequalities within rural communities. Particular attention will be paid to the capital requirements and profit potential of off-farm activities undertaken by different groups of farmers in the study villages.

Data on cash income, investment priorities and expenditures of farmers were difficult to obtain because of their interest sensitivity. The data presented here (and elsewhere in this thesis) can only be treated as reflecting orders of magnitude.

Considered as absolute numerical values they are likely to be misleading.

Direct questioning concerning cash incomes was avoided, after experience of difficulties involved during a pilot survey. The alternative method adopted was to compile a comprehensive list of commodities produced locally and known to be widely traded (using standard local units of measurement). Sample farmers were then asked to 'recall', where appropriate, the quantity sold, value of such sales, the individual or organisation to whom the commodity was sold and whether earnings from such commodity sales were used in repaying IADP loan. In the questionnaire survey, the data concerning crops sold relate only to the 12-month period before fieldwork began, thus giving a static picture of a changing phenomenon. This weakness was partly corrected by exploring the issue of cash income dynamics via informal interviews. Where farmers could not provide an estimate of the cash value of sales but offered instead the quantity involved, a median figure for the price prevailing during that season was used instead (i.e. the median figure for the range of monthly values determined by village and regional centre price surveys done as part of the fieldwork for this study). Clearly the use of such 'average price' figures is problematic as it assumes that all farmers sell their crop at a specific point in time when such prices prevail. In practice Hill (1970) notes that there tend to be significant variations in the price received by different groups of farmers for the same product. Thus whereas poorer farmers may need to sell their commodities at harvest time (usually to wives of richer farmers engaged in trade) when prices are low, wealthier farmer-cum-traders generally sell the same quantities of the same commodities during the 'hungry season' by which time prices have escalated. Given such important differences, there is a clear need to apply 'discriminating averages' in an attempt to estimate rural household earnings. Opportunity to generate such data was severly limited due to time and manpower constraints. It is important to bear these limitations in mind when examining the proxy indices of income used in this chapter. Additional fieldwork on this topic is a priority for subsequent research.

6:2 The Pattern of Farm incomes

As indicated above, it was difficult to obtain precise measurement on income levels among farmers in the sample. Fieldwork conveyed the impression that the more relevant a piece of quantitative data is the more distorted the reporting becomes. Analysis of significance levels based on such deliberately distorted data may prove nothing more than an exercise in bogus sophistication. At the initial stages of the work, a small group of farmers were asked to discuss their views on the validity of asking about levels and sources of income. The typical response was that any figures thus reported in quantitative terms are likely to be distorted for obvious reasons such as increasing pressure from kinsmen for more financial help if the suspicion of greater prosperity is actually confirmed by an 'outside' investigator. Thus, for what they are worth, I have decided to simply present the numerical data obtained through indirect questioning in more or less 'raw' form, with as little statistical manipulation as possible.

Another point that needs to be emphasised is that village economics is much more complex than a single dimensional accounting framework might suggest. Thus, as noted by one informant, incomes may derive from both 'open' and 'secret' sources and mention of the latter will be supressed. The informant noted that chiefs, for example, obtain income from secret society activities but it is 'unethical' for them to disclose such income. He also emphasised that 'accurate' knowledge of incomes is likely to be used by other groups to their advantage, example, bride prices can be discriminated for different suitors depending on their assessed income. Alternatively, it was explained, people can be fined by the village authority higher amounts if victims are known to be rich.[1]

As argued by Bradley et al (1977), among others, village economies may have quite complicated patterns of linkages with outside economies. A great variety of flows both inside of the village and between village and external economies will occur. Again the 'income' figures cited here tend to downplay some of these sources - especially 'external' flows.

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1 - Interview with section chief in Bumban - interview B 11 (13/10/79).

Table 6:1 presents the aggregate of cash incomes obtained by selling farm products and other commodities for sample farmers and villages. Tables 6:2 and 6:3 show the mean income of reported cash flows and the percentage distribution of aggregate cash sales by source respectively. The evidence on aggregate income from crop sales appears to suggest that Project farmers are on this criterion (i.e. aggregate income) better off than non-project farmers (Table 6:1). It would also appear that Bumban and Gbendembu farmers are more involved in the marketing of agricultural and other produce than is the case for Matotoka. This point emerges from Table 6:2, where project farmers' cash sales in the former villages are 1½ times greater than those of project farmers in Matotoka. The same contrast is reinforced and appears to be magnified when reference is made to the non-project farmer samples in all three villages. Matotoka non-project farmers appear to be significantly less wealthy than Bumban and Gbendembu non-project farmers.

Just under half (c. 47%) of all farmers reported rice sales averaging 7.8 bushels each (n = 111)[1]. Average sales among project farmers marketing rice amounted to 17.5 bushels (n = 29) compared to c.14 bushels for non-project farmers (n = 24). This would appear to represent about 15 - 20% of per capita rice output, which varies from village to village. Thus in terms of rice sales project farmers appear to be slightly better off than non-project households. Average income derived from crop sales is much less even in both Gbendembu and Matotoka than in Bumban.

The pattern that is consistent in all three villages is the large variation in incomes from household to household. In all 3 cases only a small proportion of the sample accounts for a substantial part of the total reported cash sales. In addition, incomes derived from different sources tend to vary considerably as shown by Table 6:3. For example in Gbendembu 64% of all reported aggregate cash sales was attributed to livestock dealings by project farmers, as compared to only 18% from the same source for non-project farmers. However, in the former case the figure is largely accounted for by those farmers who own large herds of cattle.

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1 - The average household rice sale would be c. 16.4 bushels if only related to the households reporting rice sales as opposed to total sample (i.e. if n = 53). 7.8 bushels relates to the average across the sample (project and non-project rice sales figures combined).

Table: 6 : 1 Aggregate cash sales reported by sample farmers in study villages, classified by source (cash sale in Leones)

	RICE	OTHER FOOD CROPS	LIVESTOCK	'CASH' CROPS (eg. tobacco)	OTHERS	TOTAL	SIZE OF SAMPLE
BUMBAN							
P Aggregate sale	2,682.20	686.80	1,214.00	118.90	0	4,583.00	16
percentage of farmers reporting	13/19 (298*)	13/19	11/19	5/19			
NP Aggregate sale	2,356.00	694.60	1,329.00	471.30	32.60	4,883.50	17
percentage of farmers reporting	13/18 (262)	15/18	10/18	6/18			
GBENDEMBU							
P Aggregate sale	959.20	410.05	2,450.40	0	20.00	3,839.65	13
percentage of farmers reporting	7/18 (107)	8/18	5/18		1/18		
NP Aggregate sale	395.20	657.00	329.50	403.20	0	1,784.9p	14
percentage of farmers reporting	4/19 (44)	13/19	5/19	3/19			
MATOTOKA							
P Aggregate sale	916.50	538.60	78.00	814.40	180.00	2,527.50	15
percentage of farmers reporting	9/18 (102)	10/18	2/18	12/18	2/18		
NP Aggregate sale	480.00	148.50	40.00	337.40	53.50	1,059.40	17
percentage of farmers reporting	7/19 (53)	9/19	1/19	8/19	3/19		

Source: Field Survey

Average 1978/79 rice price in study area – Le. 9.00 per bushel. One leone = c. £0.45 sterling

P = Project farmer sample

NP = Non-Project farmer sample

* - figures in bracket refer to estimated total bushels of rice sold by sample households.

N.B. There were several instances in which household heads indicated that cash income was derived from some of the sources covered but not per] ared to report estimates. These figures should therefore be read as 'minimum' estimates

Table: 6 : 2

Mean income of reported cash sales by sample farmers

Locality	Mean of reported cash sale for:	
	Project households	Non-Project households
Bumban	Le. 293.44 (293.00[1])	Le. 289.00 (184.17)
Gbendembu	Le. 295.31 (561.28)	Le. 127.45 (233.45)
Matotoka	Le. 168.50 (185.88)	Le. 62.15 (41.46)

Source: Field Survey, 1979

1 – Figures in bracket refer to standard deviations from the mean stated.

Table: 6 : 3 Percentage distribution of reported cash income from produce marketing

	RICE	OTHER FOOD CROPS	LIVESTOCK	CASH CROPS	OTHERS
Matotoka					
NP	45%	14%	4%	32%*	5%
P	36%	21%	3%	32%*	7%
Bumban					
NP	48%	14%	27%	10%	1%
P	57%	15%	26%	4%	0%
Gbendembu					
NP	22%	37%	18%	23% ⊕	0%
P	25%	11%	64%	0%	1%

* Mostly coffee

⊕ Mostly from one farmer

+ Mostly from three farmers

NP = Non-project farmer sample

P = Project farmer sample

Source: Field Survey, 1979

Although rice sales by project farmers are greater than those of non-project farmers, it should be noted that 48% of project farmers report no rice sales at all (cf. 57% for Non-project farmers) and that project farmers appear to derive substantially more cash from cash crops and livestock dealings than non-project farmers. Rice sales constitute a greater proportion of the non-project farmers' cash income, a point of some significance in trying to estimate project impact.

In terms of both rice sales and earnings from livestock dealings it is difficult to distinguish between Bumban project and non-project households. It is suggested here that this reflects the more 'commercialized' character of household economies in Bumban, as has been noted elsewhere in this thesis.

The evidence of income and income sources presented thus far appears to establish two important trends:

(i) Marked contrast between the Matotoka sample on the one hand, and the Bumban and Gbendembu samples on the other;

(ii) that project farmers tend to be more commercially oriented as reflected in the higher average sales figures.

It has been noted already why too much should not be read into the figures presented. Nonetheless, personal knowledge of the sample farmers concerned gained during participant-observation suggests that there is a basis for concluding that there are genuine wealth inequalities between the two groups of farmers in the sample villages. Supporting this is the fact that figures such as those presented in Tables 6:1 to 6:3 appear to correlate well with information relating to farmers' wider off-farm interests. Evidence elsewhere shows that project farmers are more committed to a process of resource transfer from agriculture into non-agricultural sectors. It is suggested here that the greater involvement of project farmers in the sale of crops is further indication of the orientation of this group of farmers to trade and and other urban-based activities.

Table 6:3 and Figs. 6:1 and 6:2 show the importance of livestock as sources of income, especially for the Gbendembu and Bumban samples. In Table 6:4 the evidence for livestock as an important store of wealth is presented. Livestock ownership appears to provide a convenient basis for distinguishing between project and non-project households as well as between the sample settlements (Table 6:4).

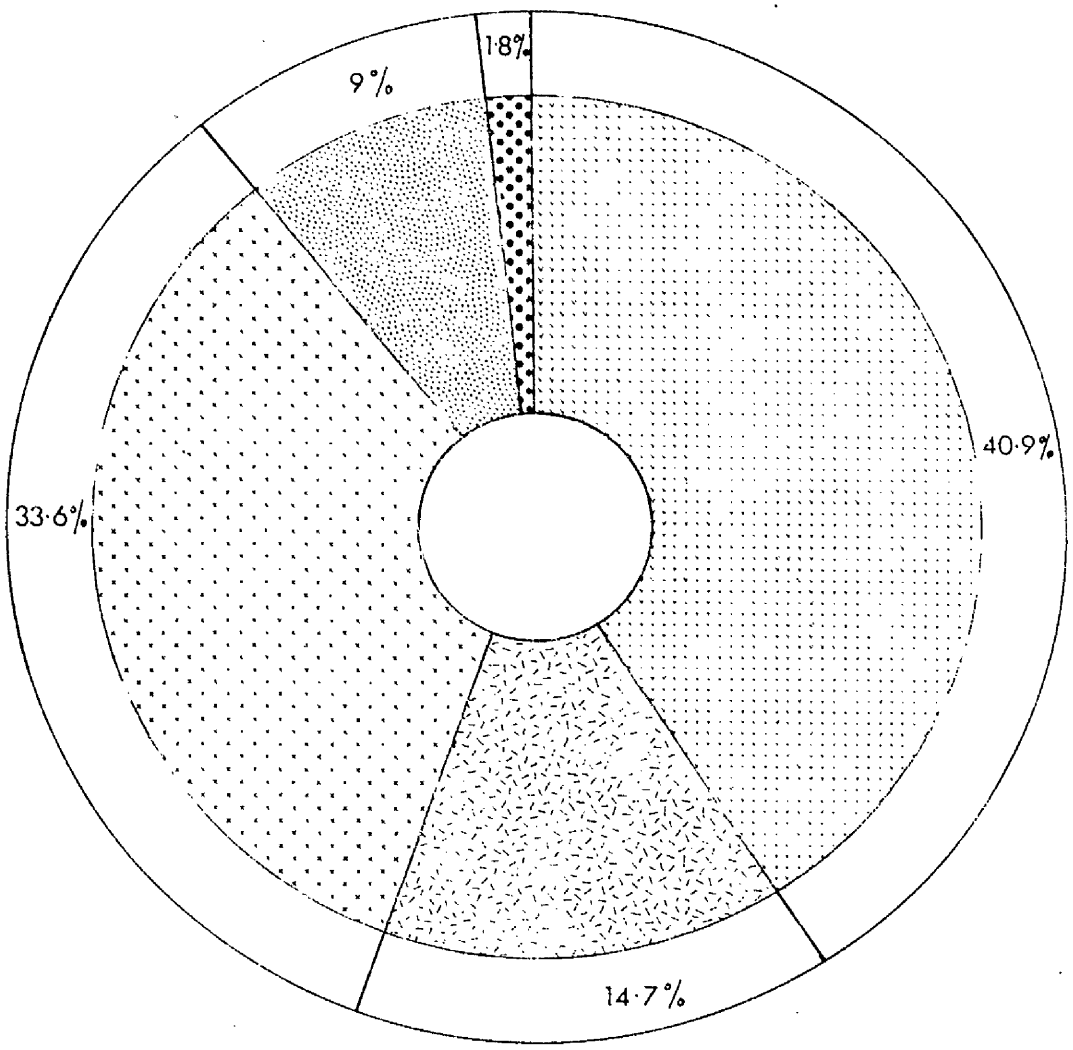

Fig 6:1 The pattern of household income for project farmers.

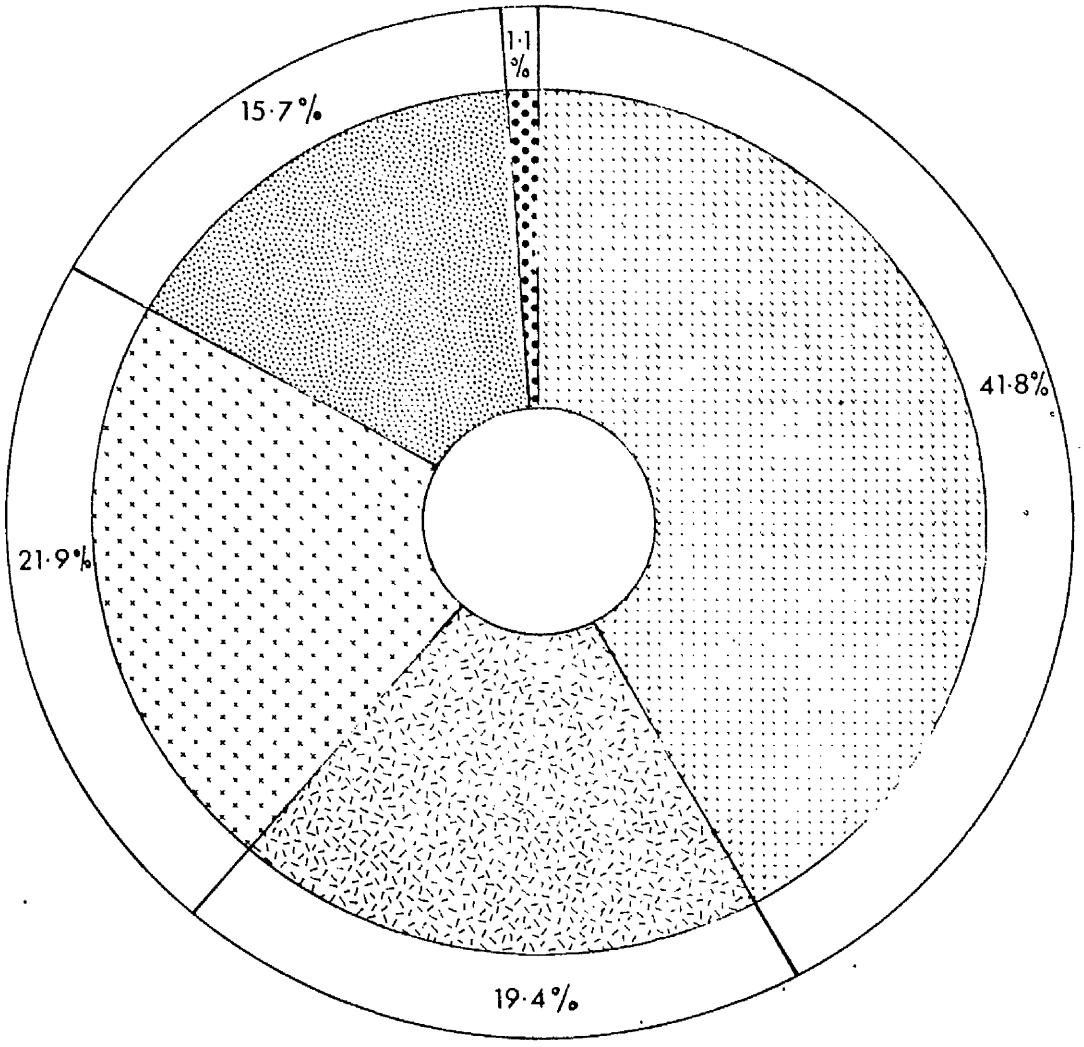

Fig 6.2 Pattern of household income for non project farmers.

As with aggregate cash income reported, the Bumban sample shows that both project and non-project farmers have considerable numbers of livestock, especially cattle - 34 farmers declaring a total of about 394 cattle. This is probably a considerable underestimate as comments from farmers suggested that at least four farmers are known to have over 200 head of cattle each. Two of them are in the sample. Even as reported cattle in Bumban owned by sample farmers would at current prices be worth about Le. 60,000, averaging about Le. 2,000 per farmer. In Bumban difference, from the point of livestock ownership, between project and non-project farmers is not marked.

In Gbendembu about half of the sample project farmers reported a total of 104 cattle, in addition to other livestock (Table 6:4). This is about half the number reported for the Bumban sample. Only one non-project farmer reported ownership of cattle, compared to 15 in Bumban.

By contrast to both Bumban and Gbendembu, Matotoka farmers report considerably fewer cattle. But even here project farmers appear to own more livestock than non-project farmers. The conclusion suggested by the livestock ownership data is that livestock, as a store of wealth, appears to be more important for Bumban and Gbendembu farmers than for Matotoka farmers. Below an attempt will be made to explore some of the social implications of livestock ownership in the study villages.

It ought to be emphasised that the figures reported on livestock ownership may be substantial underestimates. Farmers were reluctant to give relevant quantitative data on this issue because of the fear that the Government might use it as a basis for a new cattle tax. The Ministry of Agriculture has statutory powers to create and enforce such a policy and the farmers, probably because of their importance in local politics, were very much aware of this possibility. It was, however, revealed to me in confidence that a number of farmers do have large cattle herds and many other livestock. These were invariably persons influential in village politics.

6:3 Livestock ownership and Social prestige

An important characteristic of cattle owning households in both Bumban and Gbendembu is the large number of 'strangers' resident within such households.

Table: 6 : 4 Pattern of livestock ownership among sample farmers, classified by type and village

	CATTLE	GOATS	SHEEP
Project farmers			
Matotoka	0	55 (7/18)	26 (7/18)
Bumban	232+ (16/19)	184+ (18/19)	38+ (8/19)
Gbendembu	104 (7/18)	42 (8/18)	30 (4/18)
Non Project Farmers			
Matotoka	12+ (3/19)	14+ (4/19)	4 (2/19)
Bumban	162 (15/18)	182 (17/18)	29+(14/18)
Gbendembu	6 (1/18)	10 (3/18)	2 (1/18)

Livestock figures are totals reported by each group of farmers.
Numbers in brackets refer to proportion of farmers reporting livestock.

Source: Karimu and Richards, 1980

These strangers are invariably specialist Fula (Fulani) herdsmen who are hired to care for the cattle owned by the household head. In Gbendembu an important chief and owner of several herds of cattle had about 10 such male 'strangers' in his household. Once settled, the 'strangers' are afforded protection by their woreh or cattle pen owners and generally tend to farm on their own terms. Although it would be possible to analyse such units independently of the woreh owner's households, the patron-client relationship observed and the extent to which the affairs of the two groups are interdependent suggests that it is equally reasonable to treat Fula domestic units as part of the respective sample farmers' houeholds (where relevant). Thus 'strangers' in practice constitute the 'dependants' of a prosperous farmer. But this is not to imply that the status of dependence takes on a permanent form. More usually such 'strangers' have farms allotted to them and not infrequently they marry into the family of the household head. It is possible for 'strangers' to rise to the status of household heads themselves. Thus 'stranger' is not to be used as a substitute term for 'slave'; (in any case the latter category appears to be used in a variety of ways in the African literature (cf.Hopkins, 1973: 23).

There is some historical evidence to support the notion that the institution of 'strangerhood' had established itself and become integrated into village life in most of Sierra Leone by the last quarter of the nineteenth century (cf. Abraham, 1976: 34) It appears to have its origin in the system of 'pawning'. Thus for example a free man heavily in debt would voluntarily approach a wealthier man with a plea to pay off his debt. The debtor would pledge himself or a member of his family as 'pawn' - being attached to the rich man's household, recovering the debt by working for his benefactor until the original sum was repaid. But even in these circumstances, as argued by Abraham, the children of such 'domestic servants' become 'practically indistinguishable from the real children of the master more so as they grow up regarding one another as brothers' (Abraham, 1976: 34). Oral tradition appears to confirm that many of the Fula 'strangers' in places like Bumban and Gbendembu were first absorbed into local households through this kind of process (as described by Abraham for the Mende). It is therefore no surprise to find that livestock ownership and such processes of recruitment into households, are intricately related in the study area. It is against this background of the interaction between 'strangers' and wealthier, cattle-owning families that an attempt will be made to evaluate some generalizations concerning capital formation in West Africa.

Some social scientists have suggested that in West Africa both domestic group formation

and capital formation are cyclical in nature (cf. Goody, 1958; Hill, 1970). Particular emphasis is placed on the way 'domestic groups' or households are formed via demographic processes that are internal to the group concerned. According to the 'developmental cycle in domestic groups' paradigm it is possible to identify three phases in the cycle:

(i) An expansionary stage - largely stemming 'from the marriage of two people until the completion of their procreation'. Expansion is argued to result largely from the procreative activities of the couple.

(ii) Dispersion or fission stage - the onset of this phase is marked by the marriage of the children from phase one who tend to move and establish independent units of production. Thus the original household size would appear to vary directly with the age of the head.

(iii) Replacement phase - here it is postulated that family assets are disbursed among the various members of the younger generation and that the youngest child remains to take over the winding up of the family 'estate' i.e. that which remains of the domestic production unit at the death of the owner.

The net effect of such formulations is to imply that wealth is accumulated and dissipated according to the rise and fall of family units, i.e. that accumulation is not sustained from generation to generation. Hill (1970, 1972) argues that similar processes of fission operate to disburse the capital accumulated in 'family businesses' at the death of the 'owner'. The aspect of this paradigm most open to question, in the context of the study villages, is the implicit assumption that social units are 'closed' and inward-looking and that 'isolated' family units fail to pass 'success' from one generation to the next down the line. In this it is erroneously assumed that domestic production units and family businesses are laws unto themselves unaffected by forces that operate in the larger society.

The essence of the problem is exposed in the assumption that 'families' are constituted solely by biological means. Fieldwork in Bumban and Gbendembu suggests, to the contrary, that cattle-owners and other wealthy farmers partly (and even largely, in some cases) recruit members from outside. The 'stranger' phenomenon, widespread in rural Sierra Leone, appears to provide one channel by which such recruitment proceeds. It was observed that woreh owners with 'strangers' in their households did not pay the latter in cash. Often the payment took the form of 'protection' plus transfer of a few cattle. An important source of income for such strangers is the sale of cattle milk, a transaction which household heads appear to

ignore. It is important to note that the sale of cattle milk has growing importance, especially to Freetown and the diamond mining districts in Eastern Sierra Leone. One market woman involved in this trade indicated that she spends at least Le. 50.00 on purchases whenever she visits Gbendembu. It was difficult to obtain a per capita figure as her sources are many and varied - with some outside the Gbendembu Gowahun chiefdom boundary. Nevertheless it would appear that 'strangers' may derive as much as Le. 10-20 per month from this source.

Furthermore, 'strangers' are generally 'secured' with wives from the extended family of the woreh owner. In cases of litigation the latter is also expected to bring his influence to bear in favour of the former. (This is especially important in the case of conflict between cattle herders and farmers over crops damaged by cattle). One consequence of this kind of patron-client relationship, reinforced by local concepts of respect for 'big men', is that wealthy farmers may use the labour reserve provided by his 'stranger' sub-units at particularly critical times in the farming calendar. Thus when asked how weeding problems are resolved, given that most of his wives are engaged in trading, an important cattle owner in Gbendembu replied that he gets considerable 'help' from the wives of his 'strangers'. The same informant also noted that the children of his 'strangers' provide substantial labour inputs on the farm, especially for birdscaring and harvesting. Earlier it was noted that Project households, especially in Gbendembu appeared to have more children in school than non-Project households. From this kind of evidence it seems likely that the presence of 'strangers' and their children create conditions favourable for the release of children of wealthy farmers from farming tasks. If this is true, then it can be argued that the 'stranger' phenomenon provides opportunities for well-placed village elites to mobilize labour at critical times as well as allow for diversification of resources (human and capital) into non-farming sectors. Thus heads of such households typically tend to invest their wealth either in the education of their children or establishing women folk in trade. In this way it can be argued that the recruitment of outside members into 'domestic groups' appears to be crucial to the reproduction of wealth inequalities and relations of power within rural societies. External recruitment means that heads of households are not bound by the 'developmental cycles' identified by Goody and Hill. It is likely therefore, that wealth inequalities will prove cumulative over time.

The evidence on cattle ownership presented here and the substantial expenditure of rural families on children's education are, it is suggested, deliberate ways of storing wealth and

ensuring that such wealth is passed on from one generation to another. All the farmers in Bumban and Gbendembu who are in the cattle business on a substantial scale claimed to have inherited the business from their forebears.

In addition to explicit economic investments via livestock dealings, cattle owners also appear to use their resource as a form of 'cultural' investment. Important ceremonies such as marriage, funerals or secret society activities provide opportunities for such cultural investments which thenyieldresults in enhanced social prestige, an important 'currency', convertible in political practice. Thus in Gbendembu the death of an important businessman in October 1979 involved slaughtering 5 cows (estimated to be worth about Le. 1,000.00) for the 7th Day Ceremony. Part of the reason for this costly hospitality related to the need of the descendants to re-establish family prestige. The occasion was marked by the invitation of several important local personalities and key national political figures. It was an openly rational strategy for the heirs to seek to be seen as worthy to inherit the political role played by the deceased. Generous expenditure is one way of getting the right impression over on such occasions.

In Bumban, the death of the father-in-law of the section chief meant sending two cows to help with entertainment for guests during the funeral ceremonies. But when asked why a cow and not smaller forms of livestock (goats, for example) the reply was that it was an occasion that called for a 'chiefly contribution from the chief' as it directly affects 'my status in the eyes of the people'.[1] Thus it seems that such ceremonial uses of livestock serve to build up the 'cultural capital' essential for the exercise of political influence within rural society. Nevertheless such symbolic gestures may also provide opportunities for the extraction of 'surplus from the rest of the village community as well as reinforcing the prestige and social status of the 'investor'.

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1 - Interview Tape B6 (9/7/79, 11/7/79) in Bumban. On this occasion the informant also sent 10 bushels of milled rice and two 4-gallon tins of palm oil to Katombo in connection with the same funeral. At the same time the entire village community raised money and handed it over to the chief as help towards the funeral ceremonies of his brother-in-law.

Thus far the analysis has shown that Project and non-Project farmers tend to differ in terms of cash incomes derived from the marketing of agricultural and other produce. It has also been noted that the Bumban sample appears to show much less marked contrasts both in terms of mean incomes and in terms of cattle ownership. By contrast, Gbendembu and Matotoka sample farmers appear to differ on both criteria, with apparently more significant distinctions in the case of Matotoka. The view has been argued that 'domestic groups' are not closed units, but can and do recruit 'non-kin' members into their units and that this phenomenon is important for understanding how wealth distinctions as well as patterns of inequality are perpetuated over time. The next section will consider the expenditure patterns of households.

6:4 Household expenditure patterns

Table 6:5 presents information on patterns of expenditure reported by farmers during the survey. As with income per capita, expenditure differences between Project and non-Project farmers in Bumban is less marked than in either Gbendembu or Matotoka. The unexpectedly low household expenditure figures for the Bumban sample may be explained thus:

(i) More of the sample here chose not to indicate levels of cash expenditure under the different headings used in the survey but rather to rank these expenditures in order of importance. The ranks tended to emphasise expenditure on education, ceremonies and household consumption, in that order of importance.

(ii) Ceremonial expenditure was shown to be very important in Bumban and many of the farmers preferred not to quote actual figures connected with such expenses due to intense interest and rivalry concerning the approaching Gbangbani Society festival.

Consistent with earlier comments that Matotoka farmers appear to be more dependent on farming than sample farmers elsewhere, it is significant to note that about 25% of total expenditure by Project households in Matotoka relates to 'reinvestment' in farming. This compares with only 11% and 15% for Bumban and Gbendembu project farmers respectively. In terms of education, Matotoka project farmers appear to spend much less under this heading (only 9% compared with 25% on farming). By contrast, both project and non-project farmers in Bumban and Gbendembu spend proportionately more on education than on farming. In fact most of the expenditure on farming in the latter villages related solely to cash payments for labour 'companies'.

Overall, expenditure on education is higher than expenditure on farming. In informal

Table: 6 : 5 The pattern of expenditure in sample housholds and villages

		Farm	House - hold	Education	Ceremonial	Other	Total per capita expenditure reported (Leones)
BUMBAN	(Project ((n=10)*	11%	31%	10%	44%	3%	$\bar{x}$ = 72 leones
	(Non Project (n=13)	11%	22%	19%	41%	6%	64 "
GBENDEMBU	(Project ((n=14)	15%	42%	22%	15%	7%	533 "
	(Non Project ((n-16)	21%	25%	21%	25%	8%	290 "
MATOTOKA	(Project ((n=18)	25%	35%	9%	30%	3%	217 "
	(Non Project (n =19)	18%	36%	23%	20%	2%	265 "

* Other interviewees could not specify amounts under various expenditure heads, or chose to rank expenditures rather than report actual figures.

Source: Field Survey, 1979.

discussions many farmers underlined the point that the amount of cash they earn fluctuates substantially from year to year, depending both on commodity prices set by national produce marketing boards (including official rice prices) and also and even more crucially on prices paid by local traders. Farmers were apt to compare unfavourably this aspect of their income earning position with those of salaried, white-collar workers in Freetown and other urban centres. Thus most heads of households aspire to provide their children with adequate education to qualify for government positions and/or commercial employment in the towns yielding a more reliable income. As village education does not generally proceed beyond the primary school level, many household heads send their children to district and provincial towns (and not infrequently to Freetown) to acquire secondary and post-secondary education. One project farmer in Gbendembu summarized this attitude thus:

> Every family in our village today aims to have one or more children in some responsible government position in Freetown. We can then turn to such a person for help with government matters. To give them all a chance I have sent all my children to schools in Makeni, Port Loko and Freetown.[1]

For families with children studying outside the village, a substantial proportion of annual expenditure is devoted to providing living expenses in towns. It has been shown elsewhere how rice remittances support urban kin groups. These are a related aspect of household expenditure. It is significant to note that most of the money used in this process derives from farming. To the extent that it is money not reinvested in agricultural improvement it could be argued that it represents de-capitalization of the agricultural sector in favour of the urban formal sector.

In order to investigate farmers' perceptions concerning the future of agriculture in the study villages the following question was posed to all household heads interviewed: 'Do you hope your children will be farmers?' Four options were open to each farmer. The results are presented in table 6:6. Fifty four percent of all household heads interviewed (n = 111) declared that only those children without education are expected to become farmers. About 63% of those making this kind of comment are project household heads. It is significant to note that 10 out of 13 farmers not desiring any of their children to become farmers are project household heads. Only 21% of all farmers surveyed indicated the hope and

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1 - Source: Project sample farmer interview in Gbendembu, 14/8/79 (field note book C3/14/8/79)

Table: 6 : 6 Sample Farmers' View concerning the future participation of children in farming

	Some	All	None	Only those without schooling	Don't know
Bumban					
Project Farmers (n = 19)	0	1	1	17	0
Non Project Farmers (n = 18)	0	0	2	15	1
Gbendembu					
Project Farmers (n = 18)	1	2	5	10	0
Non Project Farmers (n = 19)	13	4	0	2	0
Matotoka					
Project Farmers (n = 18)	2	1	4	11	0
Non Project Farmers (n = 19)	8	5	1	5	
	24* (21.6%)	13 (11.7%)	13 (11.7%)	60 (54.1%)	1 (0.9%)

n = 111

* % of sample falling in category

Source: Own Survey, 1979

expectation that some of their children would become farmers. By way of comment several farmers added the expressed intention that female children would in future do most of the farm work under the leadership of not more than one son. In other words farmers anticipate a further sharp decline in male participation in farming in the next generation. It is again significant to note that only 3 out of 24 project farmers who express positive desire for their children to be farmers are project farmers. Thus the majority in this position are non-project farmers distributed between Gbendembu and Matotoka. In short, the evidence confirms farmers' priority commitment to spend on children's education. Even more significantly a substantial proportion of project farmers do not appear to see a future generation of farmers emerging from within their own households. The evidence here further corroborates the contention in this thesis that IADP loan capital is tending to be adopted by farmers who view such credit as an opportunity for resolving short-term problems associated with the process of disengagement from agricultural activities, redirecting their attention towards urban-based ventures.

Another major category of expenditure listed in Table 6:5 is related to ceremonial expenses. Many farmers considered this to be a priority area for spending available cash. This stems from the fact that ceremonial spending, such as that connected with secret societies already discussed, are a vital mechanism in ensuring the reproduction of existing social and political relationships. Thus for instance the next generation of marriageable women (and hence mothers) comes into being via participation in the women's bondo society. Similarly, adult male participants in farm work are 'produced' by the social process of initiation into male secret societies. Initiation places these new adults in a political as well as social context. Given the importance of the institutions which give rise to ceremonial spending, it is not unexpected that between 15% and 44% of total reported expenditure falls in this category. Ceremonial expenditure includes inputs in cash and kind relating to funerals, secret societies, marriage, religious activities (e.g. feast of Eid-ul-Fitri for Muslims or Easter for Christians), and rituals connected with farming - for example 'the feeding of the bush' when the spirits of fertility are invoked (cf. Johnny, 1979). There appear to be no marked contrasts either spatially or between the sample strata. This reflects the overall importance of such expenditure to all farmers as such ceremonies represent occasions when society, culture and politics mesh together.

Thus far the analysis has established that overall expenditure on agriculture is less than that for education of farmers' children. Further, it has been argued that project farmers, especially in Bumban and Gbendembu, reinvest more of their profits from farming in educational

and trade-orientated projects. In terms of the future of agriculture the evidence seems to suggest that a significant decline in available labour force for agricultural work is to be expected (see Table 6:6). Project household heads appear to be aiming to translate the next generation of potential farmers into urban activities. Many project farmers indicated that given a choice between farming and trading, they would prefer to go into the latter because it is thought to be more lucrative. It is therefore suggested that for IADP to produce a sustained impact on agricultural transformation in northern Sierra Leone, there is need for radical changes in the overall inter-sectoral terms of trade of the national economy. In short until agriculture is made lucrative enough to provoke a reversal of the attitudes summarized in Table 6:6, the Government's goal of self-sufficiency in food production will remain a pious hope.

6:5 Farmers' investment priorities

Data was collected in the questionnaire surveys relating to farmers' investment preferences. These were based on hypothetical questions concerning what a farmer would do if a given amount was made available, either from farming or other sources. The data were collected before those relating to 'actual' expenditure patterns discussed above. This was designed to facilitate on the spot comparisons of perceptual and 'actual' behavioural data.

Two types of data were collected on investment priorities. One relates to farmers' agricultural investment preferences i.e. farmers were restricted to a choice between options that explicitly related to agriculture. Initial group discussion with farmers showed that allocation of resources between the purchase of fertilizer (maintaining soil fertility) and spending on pest control was a key issue in peasant decision-making. Pests, especially the cane-rat (Thryonomys swinderianus) are widely recongnized as a severe obstacle to increasing crop output. Thus, farmers argued that in some instances expenditure on fertilizer might only result in producing more food for the cane-rat if the latter is not concurrently constrained. A reduction in the area of unfarmed bush is thought to have contributed to the proliferation of the cane-rat and similar rodent and primate pests, particularly destructive of upland intercropped farms. Hence the data here relate to farmers' preferences for allocating a given sum of money (commented upon to be inadequate by several farmers) to these two areas. The second set of data relate to general financial investment priorities, assuming various amounts between Le. 50.00 and Le 500.00. This was cast in an open-ended format to allow farmers to bring in as many dimensions as was thought important by them.

Table 6:7 shows the result of farmers' allocations if a total loan of Le. 30.00 is available for fertilizer and pesticide. Overall, project farmers appear to be disposed to spend slightly more on fertilizers than non-project farmers in all three villages. Within the project farmer sample this choice is stronger for Matotoka and Gbendembu farmers and less so for Bumban. The apparently lower commitment of Bumban farmers to fertilizer purchase is, it is suggested, related to the recognized inherent fertility of many Bumban swamps. It has been observed elsewhere that these swamps would appear to have been under continuous cultivation since the 19th century (see chapter 4). Several of the swamps in Bumban were developed to an advanced stage via participation in an earlier project concerned with agricultural improvement.[1]

Non-project farmers as a group tend to prefer slightly higher cash allocations for pest control. This reflects the greater interest of non-project farmers in upland farming. Karimu and Richards (1980: 92) have shown that of farmers surveyed in an evaluation of IADP, 21% opted for upland cultivation if their choice were to be restricted to either swamp or upland. Most of these farmers were in the non-project sample. Since pest control problems appear more accute on upland farmes than in swamps it seems reasonable to suppose that non-project farmers' preference (Table 6:7) reflects their greater interest in upland cultivation.

Table 6:8 shows a disaggregation of the preferred allocations of sample farmers. The points made in relation to table 6:7 seem to be reinforced here i.e. project farmers appear to be more oriented towards spending money on fertilizer than on pest control. This is evidence to suggest recognition of the beneficial effects of fertilizers already distributed as part of the IADP package.

Table 6:9 presents a further aspect of farmers' investment priorities. On separate occasions sample farmers were asked to indicate how they would choose to invest Le. 50.00, Le. 100.00, and Le. 500.00. Table 6:10 represents a village breakdown of the preferences indicated by sample farmers. As with 'actual ' declared expenditure, there appears to be a greater preference for spending in non-agricultural sectors, especially education.

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1 - Unfortunately attempts made to examine records relating to this scheme (run by Italian Catholic Volunteers) at the Mission headquarters in Kamabai during fieldwork was unsuccessful. The priest confirmed that some rudimentary records were kept but were taken away by the volunteers on return to Italy. It was, however, confirmed that most of the techniques currently promoted by IADP had been introduced into Bumban by the mid-1960s.

Table: 6 : 7

	PROJECT		
	FERTILIZER (Leones)	PEST CONTROL (Leones)	TOTAL (Leones)
Matotoka	16.83	13.17	30.00
Bumban	13.68	16.32	30.00
Gbendembu	17.18	12.82	30.00
Grand Average= (three settlements)	15.87	14.13	30.00

	NON PROJECT		
	FERTILIZER	PEST CONTROL	TOTAL
Matotoka	16.95	13.05	30.00
Bumban	10.88	19.12	30.00
Gbendembu	13.58	16.42	30.00
Grand Average= (three settlements)	13.85	16.14	30.00

Farmers' predicted average allocations if loan 30 Leones is available for fertilizer and pesticide.

Source: Karimu and Richards, 1980 : 69

Table: 6 : 8 Agricultural Investment Preferences of Sample Farmers

PROJECT FARMERS

Locality	FERTILIZER				PEST CONTROL			
	0-10 Leones	11-15 Leones	16-20 Leones	20 Leones+	0-10 Leones	11-15 Leones	16-20 Leones	20 Leones +
Bumban (n = 19)	7	11	1	0	2	10	7	0
Gbendembu (n = 18)	2	10	4	2	6	9	2	1
Matotoka (n = 19)	4	2	12	0	10	3	5	0
TOTAL	13	23	17	2	18	22	14	1

NON PROJECT F ARMERS

Locality	FERTILIZER				PEST CONTROL			
	0-10 Leones	11-15 Leones	16-20 Leones	20 Leones +	0-10 Leones	11-15 Leones	16-20 Leones	20 Leones+
Bumban (n = 18)	16	1	1	0	1	1	16	0
Gbendembu (n = 19)	8	8	3	0	3	7	8	1
Matotoka (n = 19)	5	1	12	1	11	3	5	0
TOTAL	29	10	16	1	15	11	29	1

Source: Field Survey

The grand total figure (Table 6:9) suggests that farming and education are more or less equally important on farmers' investment preference scales. It is, however, significant to note that non-project farmers (50% of the total sample) accounted for 57% of total investment in farming. This further confirms the picture established in tables 6:5 and 6:6 of non-project farmers being more interested in farming investment than the project farmers. This is unlikely to reflect any real difference in commitment between the two groups; rather Tables 6:9 and 6:10 reflect the probability that as farm income increases a smaller proportion of overall profit will be re-invested in farming - for example on labour hiring or purcahse of fertilizers. Farming provides a fixed basis from which to venture other kinds of investments. If, overall, non-project farmers were as wealthy as project farmers then investment strategies would in all probability be entirely similar.

The tendency for the proportion of returns reinvested in agriculture to decline as farmers become more prosperous and established is especially strong among project farmers in Bumban and Gbendembu. There is some evidence that Matotoka project farmers show a preference for a greater agricultural than educational investment. It is interesting that Matotoka is part of the area where the project response has been most favourable (see feg. 5:1 for example).

The evidence presented in table 6:5 (farmers' 'actual' patterns of expenditure) appear to correspond well with farmers' perceived investment priorities in various hypothetical situations. If the association between perception and behavioural data were to hold up under further testing and analysis (a point not adequately pursued here because of the need for more field testing where 'hypothetical' data are concerned) there would seem grounds for arguing that IADP credit alone is unlikely to improve levels capitalization of local agriculture. If anything the results suggest a reverse process i.e. that IADP credit would seem to be facilitating the process of transfer of human (see Table 6:6) and capital (cf. Tables 6:5 and 6:7 - 6:10) across from agriculture to educational and general consumption spending (e.g. building a new house). It is argued here that the reported trends constitute the inevitable consequences of an emphasis on inland valley swamp development. In chapter 4 an attempt is made to demonstrate why swamp farming aids and privileges the transition to trade. Wealthier farmers can easily adopt 'improved' swamp cultivation as their off-farm sources of income can be tapped to pay for the extra-household labour which inevitable arises with such land use system (cf.Karimu and Richards, 1980; Richards, 1981). In effect swamp cultivation reduces the need for a farmer's personal presence on the farm. In this way

Table 6:9 Project and non-Project farmer perceived preferences for investing 50, 100 and 500 Leones

PROJECT FARMER SAMPLE

Hypothetical Amount	Preferred category of investment		
	Farming	Education	Others
Le. 50.00 (n = 55)	23	20	12
Le. 100.00 (n = 57)	17	31	9
Le. 500.00	17	20	18
	57 (34%)	71 (43%)	39 (23%

NON PROJECT FARMER SAMPLE

Hypothetical Amount	Preferred category of investment		
	Farming	Education	Others
Le. 50.00 (n = 56)	25	22	9
Le. 100.00 (n = 55)	27	22	9
Le. 500.00	24	16	16
	76 (43%)	60 (36%)	31 (18%)

Source: Field Survey

1 - Mostly housing and consumption goods

Table 6:10 Sample farmers' preferences for investing 50, 100, and 500 Leones disaggregated by sample locality

	PROJECT FARMERS			NON-PROJECT FARMERS		
	Farming	Education	Others	Farming	Education	Others
50 Leones						
Bumban	4	8	7	5	8	5
Gbendembu	10	5	3	12	5	2
Matotoka	9	7	2	8	9	2
100 Leones						
Bumban	2	12	4	7	5	1
Gbendembu	13*	5	2	18*	0	5
Matotoka	2	14	3	2	17	0
500 Leones						
Bumban	1	7	11[1]	1	6	11[1]
Gbendembu	6	7	5	8	8	3
Matotoka	10	6	2	15	2	2

Source: Field Survey

1 - Mostly housing

* Mostly for hiring labour

it can serve to reinforce the interests of wealthy, part-time farmers better than those of poorer peasants. Thus it would appear that initial emphasis on swamp cultivation meant that such wealthier, part-time farmers took up project credit very widely. Meanwhile resources that were hitherto deployed inlocal agriculture became released for more direct investment in non-agricultural activities. Field dialogue with farmers suggests that these trends are likely to continue if existing terms of trade between agriculture and other sectors are not altered in favour of the former. This point was summarized vividly by one farmer thus:

> I think there are better prospects in business (trade) than in farming in this country. All the rich men I know are not farmers but businessmen (traders) and educated people who work in government service. That is why I will use the last cent I have to educate my children. If I have the capital I will go into trading myself'.[1]

The next section will attempt to consider some of the issues involved in farmers' off-farm cash earning activities.

6:6 Off-farm occupations of Sample farmers

> 'Income inequalities from non-farm employment - trading, money lending, manufacturers, and salary are usually even greater than inequalities from agricultural production' (Williams, 1976: 144)

Engagement in off-farm cash earning activities by farmers is widespread in the study area. Some of these activities are seasonal in nature such as taking up a job on a building programme in nearby urban centres like Makeni and Magburaka during the dry season (usually by small farmers) while others tend to be continuous but periodic such as serving on a local court at the chiefdom level. As argued by Karimu and Richards (1980) and Richards (1981) the involvement of farmers in part-time non-farm occupations is important both for understanding the response of different groups of farmers to swamp cultivation and the overall pattern of inequality in the s tudy area.

About 51% of all farmers interviewed reported involvement in off-farm occupations (Table 6:11). In terms of absolute numbers of farmers in secondary cash earning occupations presented in table 6:11 there is no apparent distinction between project and non-project farmers.

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1 - Transcript from tape recorded interview with farmers in Gbla compound, Matotoka 13/10/79 (comments from asample project farmer.)

Table 6:11 Off-farm occupations of sample farmers in study villages

Locality	PROJECT HOUSEHOLDS		NON PROJECT HOUSEHOLDS	
	Farmers with off-farm occupations	Farmers without off-farm occupations	Farmers with off-farm occupations	Farmers without off-farm occupations
Bumban[1]	8	12	7	11
Gbendembu[2]	12	7	12	5
Matotoka[3]	10	9	8	10
	30 (27%)	28 (25%)	27 (24%)	26 (23%)

Source: Field Survey

1 – n = 38

2 – n = 36

3 - n = 37

Total sample n = 111

It is argued, however, that the analysis of off-farm activities in frequency distribution terms is misleading in two important respects;

(i) it fails to take account of the differing capital needs of off-farm activities that different groups of farmers engage in;

(ii) it does not emphasise the potential level of profit that may accrue from participation in different off-farm activities. Further analysis of material in table 6:11 was therefore undertaken in order to explore the two points noted above.

6:7 Toward an understanding of rural wealth and income inequalities

Material in table 6:12 shows a disaggregation of off-farm activities for project and non-project farmers in terms of the potential level of profit - characterized as 'low' or 'high' and the capital requirements of the various enterprises. The latter is divided into activities with 'high' capital needs and those with relatively 'low' capital requirements. Thus in terms of farmers with declared sources of secondary income a four-fold matrix can be used to ananlyse the frequency distribution of the data in table 6:11. The cells of the matrix have been labelled A, B, C and D for the purposes of analytical convenience. Fieldwork observation and discussion with farmers suggested that different off-farm activities vary in their potential profitability, capital needs, and time input by the farmer - a point also noted by Williams (1976) in the quotation above. It is therefore suggested that the extent to which different households are involved in either low capital/low profit or high capital/high profit off-farm activities reflects significant distinctions in their capacity to diversify into non-farm activities. A brief description of each cell of the matrix is appropriate at this juncture.

Cell A - this embraces occupations with relatively small capital needs and a corresponding tendency to yield only low incomes per annum. Typically the incomes would appear to range between Le. 10.00 and Le 70.00 a year (see key to table 6:12 for examples of such occupations).

Cell B - the entries here constitute occupations with substantial potential for generating relatively high profit. Capital needs tend to be low here because several of the occupations (for e.g. craft production) rely on the use of local resources. The production of local crafts such as baskets, mats, fishing gear and assorted carvings are an important feature of this category. It is significant to note that the growth of tourism in recent years

Table: 6:12 A matrix analysis of sample farmers with declared sources of off-farm incomes

BUMBAN PROJECT FARMERS

	Low Profit potential activities	High Profit potential
	A	B
1. Low capital needs	3	-
High capital needs	-	5
	C	D

BUMBAN NON PROJECT FARMERS

	A	B
Low capital needs	4	-
High capital needs	-	3
	C	D

2. GBENDEMBU PROJECT FARMERS

A	B
-	2
-	10
C	D

GBENDEMBU NON PROJECT FARMERS

A	B
3	3
	8
C	D

3. MATOTOKA PROJECT FARMERS

A	B
-	-
C	D

MATOTOKA NON PROJECT FARMERS

A	B
4	2
C	D

KEY

Cell A	Cell B	Cell C	Cell D
Palm wine tapping	Mason	(Please see text)	Local court membership
Local matress making	Barber		Village headship
Fishing	Wage labouring		Trading
Hunting	Wood carving		Driving
	General craft production		Carpentry
			Teaching
			Livestock dealings
			Produce marketing
			Blacksmith
			Motor mechanic

appears to have a considerable impact on these village crafts. A considerable range of variation is possible in this category, stemming mainly from differences in expertise and skill required for each activity. Thus specialist knowledge is an important criterion determining participation as well as profit level realizable from these occupations. For this reason only a few rural families appear to be involved (Table 6:12).

Cell C - this cell is blank in all cases - project and non-project. This 'redundancy' is not unexpected in terms of general economic rationality. If a farmer is in a position of being able to invest substantial capital in a business enterprise, he/she is more likely to be attracted to an enterprise with high profit potential. It is not surprising therefore that farmers appear to shift to cell D and hence the void of cell C.

Cell D - the entries here relate to off-farm activities which either need a large initial capital outlay or acquisition of 'political status' in the rural community in order to sustain the enterprise and generate high profit levels. Livestock dealings, and produce marketing, are examples of such activities which are said to demand over Le. 100.00 for participation on a regular basis. Success in such enterprises implies relatively sophisticated managerial skills and considerable time input by the individual farmer concerned. It is this group of farmers who are likely to adopt swamp cultivation owing to its compatibility with their substantial involvement in off-farm trading occupations (cf. Richards, 1981). On the other hand, local court membership and village headmanship are political positions of considerable income earning importance. For the purpose of the present discussion it is significant to note that access to cell D type activities appears restricted, by its time and capital requirements, to only a few farmers. It seems therefore that wealth inequalities may derive from such differential access and participation in high capital/high profit occupations.

Table 6:13 is the result of a chi-square test applied to material relating to the distribution of project and non-project farmers in low and high profit off-farm activities. For the contingency table the result shows a significant distinction between project and non-project farmers with respect to the profit potential or attribute of off-farm activities reported ($\alpha = 0.05$). At several points in this thesis the suggestion has been made that Project farmers tend to have de facto only a part-time interest in farming. This is borne out by the predominance of project households in cell D-type activities which are characterized by high profit as well as considerable time input. About 66% of all farmers reporting participation in these activities are project farmers (see Table 6:12).

Table: 6:13 χ^2 test of significance for distinction between Project and non-project farmers in terms of the potential profit attribute of off-farm activities

	Off-farm occupations in 'low' profit category	Off-farm occupations in 'high' profit category	
Project farmers	3	27	30
Non Project farmers	11	18	29
	14	45	59

χ^2 = 7.993+

ϕ = 0.33

+ significant at α = 0.05
(n = 59)

Systematic evidence was not collected during the fieldwork for study on the actual magnitude of the distinctions just noted. There are grounds, however, for supposing that several of the differences in 'wealth' and investment priorities that that have been noted for the two sample strata may be traced to involvement in off-farm activities. Future research may well be centred around an adequate analysis of the inter face between agricultural and non-agricultural occupations in rural communities.

6:8 Conclusion

Three interrelated issues of farm income inequalities, farmers' future investment priorities and the nature of off-farm activities in which farmers participate have been discussed in this chapter. The evidence seems to suggest that project and non-project farmers may be different, in varying degrees, in all three respects. There is some evidence to suggest that project farmers are typically wealthier than non-project farmers but the distinction between the two groups appears more significant in Matotoka than in the other two survey villages. This in turn may be linked to the fact that Matotoka farmers are poorer overall than either farmers in Bumban or Gbendembu.

Livestock ownership and incomes from livestock sales are thought to be a more significant basis for contrasting the samples in social and spatial terms. In this respect the conclusion is that Matotoka farmers are much less involved in livestock dealings and correspondingly tend to have a greater commitment to arable farming. A significant consequence of this is that project impact here appears more positive than in either Bumban or Gbendembu. This in turn has meant that transfer of resources (human and capital) into non-farm sectors is much less advanced in Matotoka than in the other two villages. Perhaps more significantly, project and non-project farmers were noted to differ with respect to reported livestock ownership. There are grounds for supposing that the relevant figures are underestimates but even so they appear to point to real differences between project and non-project farmers in this respect.

Contrary to general assumptions in the literature about the ephemeral character of West African businesses, I have argued that livestock ownership represents part of a continuous process of wealth differentiation over several generations. We have shown how the institution of strangerhood provides a mechanism for wealthy households to recruit members into the family unit from external sources. Also it was argued that such 'strangers'

and their families may provide labour reserves for critical farming tasks on the farms of wealthy household heads. Spending on children's education is also argued to be a disguised way of passing on wealth from one generation to the other. But even more importantly the social and cultural use of cattle, as discussed above, appear to provide opportunities for consolidating and strengthening existing relations of power within rural societies. Cattle ownership, and latterly children's education, constitute operative forces behind the production and reproduction of social inequalities.

Evidence concerning the expenditure patterns of farmers indicate that more is reinvested in education of children than in agriculture. Project and non-project households appear to show fundamental difference s in this respect. The former tending to spend more in education than farming when compared to the latter. Comparison of 'actual' expenditure with perceived investment priorities show an interesting consistency of results i.e. the desire to spend more on education than in farming, especially with regard to project household heads. Project farmers do not appear to see much future role for their children in farming. Non-project farmers, by contrast, appear to believe more strongly that at least some of their children will remain in farming. Thus the available evidence appears to suggest that project farmers are involved in a net transfer of resources in to urban-focused activities as part of a long-term process of adjustment to biases inherent in the structure of the national economy. From this standpoint it can be argued that such shifts, argued by some to represent an exploitative relationship between town and country-side (cf. Lipton, 1968; Levi, 1976) rather reflect 'rational' decisions by well-placed rural households to manipulate established characteristics of the nat economic system. Class 'bias' is a more reasonable hypothesis than 'urban' bias.

Off-farm activities of sample farmers were examined in some detail. In particular a schema involving analysis of types of off-farm occupations in which farmers participate has been suggested as a way of exploring rural socio-economic inequalities. An important conclusion reached is that project and non-project farmers differ significantly with respect to the level at which they participate in off-farm enterprises. In particular the former group tend to be associated with high capital/high income off-farm activities. The suggestion therefore is that project farmers' dominance in such activities represents a considerable inter-sectoral flow of resources. It has also been argued that the degree of involvement in off-farm activities by farmers is important for understanding differences in response to swamp rice cultivation (this point is analysed in detail in chapter 4) opportunities.

CHAPTER 7

RISKS AND CREDIT ASSESSMENT IN PEASANT AGRICULTURE

7:1 Introduction

One important issue arising from a discussion of project credit policies (see Chapter 5) is that no formal account was taken in project planning of the assessment of risk and whether risk levels would rise at the same time as project technology raised yields. Academic analysis of peasant farming systems has been much concerned with the issue of risk at a conceptual level (Wald, 1950; Gould, 1963; Norman, 1974; Richards, 1977; Atteh, 1980). Many of these analyses are based on concepts derived from game theoretic approaches applied to decision-modelling along lines first developed by von Neumann & Morgenstern (1953) - (c.f. Found, 1971). The theory of games, accouding to Gould (1963), is essentially concerned 'with the question of making rational decisions in the face of uncertain conditions by choosing certain strategies to outwit an opponent'. Arising out of this basic framework are two concepts which appear to offer insights into peasant farmer behaviour. These are the 'maximin' and 'minimax' decision-making strategies, under the assumption that environmental decisions are the choices of players in games against the environment (Wald, 1950). (A further problematic assumption is that the 'opponents' are 'rational' and behave in a manner designed to trap the other player).

Given the above assumptions, 'maximin' (maximizing minimum gains) or 'minimax', (minimizing maximum losses) can be viewed as 'best' strategies available to a decision-maker who is primarily interested in survival. These notions have had a considerable appeal for Geographers whose research interests are focused on analysing problems of environmental adaptation.

Following on from this established interest in decision-making several studies have attempted to test the validity of a game-theoretic framework, and the appropriateness of peasant decision making (cf. Dillon and Scandizzo, 1978; [illegible]). Several such studies have concluded that risk minimization strategies appear to be optimal as far as

African peasants are concerned (cf. Gould, 1963; Cole, M. and Gay J., 1971: Barker, Ogunbiyinbo and Richards, 1977; O'Keefe and Howes, 1978; Johnny, 1979; Atteh, 1980; Turner, 1978).

In the light of the above conclusions and theoretical analysis, the fieldwork of this thesis included several questions on risk and choice designed to explore the following dimensions of the sample farmers' decision-making processes. The aim was to:

(i) examine the validity of generalizations relating to 'minimax' approaches in the context of studies of African peasants;

(ii) analyse the degree to which different groups of farmers are oriented towards risk minimization strategies or profit maximization strategies when making agricultural decisions.

7:2 Analysis of sample farmers' risk attitudes

Earlier it was suggested that the relatively better-off group of farmers tended to find cash crop production and children's education more profitable than reinvesting profits from rice sales in increased or intensified rice production capacity. This group is involved in a process of 'disengagement' from 'traditional' food-crop farming. Because this class of farmers are 'wealthier' in material (see Table 6:5) as well as human (cf.Table 4:2) terms, they show a greater capacity to underwrite the risks associated with farming and for this reason are better equipped to take the lead in adopting technological innovations. Thus the degree of risk that is perceived to be associated with project technology is an important variable in understanding the pattern of adoption. Poorer farmers, for example, already need credit to simply do no more than compensate for risks and misfortunes culminating in pre-harvest food shortages (see Table 5:2).

Using a 'game format' sample farmers were asked to explore some of these issues, to try and elucidate the background to their decisions. The motivation for using this approach, involving the use of simple gaming apparatus, eg. stones to represent yields and various symbols to represent different types of farming situations, derived from participation in a parallel research project conducted in Southern Sierra Leone (see

Johnny, 1979; Johnny and Richards, 1980). In this instance repertory grid methods (cf. Bannister and Fransella, 1977; Richards, 1978; Atteh, 1980) were used to explore, diagnostically, the 'constructs' which dominated farmers' cognitions of their agricultural environment. When Moyamba farmers were confronted with rice varieties as 'elements' in a grid they frequently resorted to a bi-polar construct stable yield - variable yield' as important structural principle in their choice of a crop variety. From this insight a 'standardized' approach was developed using two hypothetical rice varieties which for purposes of analytical convenience are here labelled 'A' and 'B'. The yields of 'A' and 'B' were presented in terms of 'bags' of stones. Variety 'A' was supposed to give a return of 60 bushels per hectare in a 'good' year and 20 bushels per hectare in a 'bad' year. Variety 'B' on the other hand would yield 40 bushels per hectare in a 'good' year and 30 bushels per hectare in a 'bad' year. Good and bad years were supposed to be equally probable.

Women farmers in Bumban were faced with the same hypothetical situation with respect to their specialist crop, groundnuts. Rice was the assumed crop in the case of male farmers in all three localities. The notions of 'good' and 'bad' were, as far as possible, chosen to fit local conceptions of a good or a bad farming year. Whenever a farmer made a choice he was asked to explain his decision. The results of the choices are presented in table 7:1.

According to Table 7:1, 68% of all farmers interviewed showed a preference for the lower average yield/lower risk variety. More non-project than project farmers preferred the 'minimax' option. The preference is, however, more marked among non-project farmers in Matotoka and Gbendembu than it is for Bumban non-project farmers. The result appears consistent with evidence elsewhere in this study that project farmers as group tend to be 'wealthier' and therefore have more opportunities for recovering in the case of a hazard resulting from a 'bad' year. The preference shown by project-farmers for a variety that gives greater long run returns (even at the expense of higher risks) correlates with their greater orientation towards trading.

The strongest interest in the higher average yield/higher risk variety was shown by Bumban farmers, both male and female. In all 72% of all farmers interviewed in Bumban chose the higher risk variety (i.e. variety 'A'). The tendency is most marked among project male farmers, closely followed by their non-project counterparts and then by women farmers (see Table 7:1). In Chapter 4 it is suggested that Bumban's agriculture

Table 7:1 Reliability versus profit: sample farmer preferences

PREFERRED VARIETY	PROJECT FARMERS		NON–PROJECT FARMERS	
	High yield/ high risk variety[1]	Low yield/ low risk variety[2]	High yield high risk variety	Low yield low risk variety
Bumban (male farmers)	15	3	12	4
Gbendembu (male farmers)	3	17	0	19
Matotoka (male farmers)	4	15	1	18
Bumban (women farmers)	-	-	10[3]	7[3]
Matotoka (women farmers)	0	3	0	19

Source: Field Survey, 1979

1 - Hypothetical rice variety yielding 60 bushels per hectare and 20 bushels per hectare in 'good' and 'bad' years. Good and bad years occur with equal probability. This is labelled variety 'A' in the text.

2 - Hypothetical rice variety yielding 40 bushels per hectare and 30 bushels per hectare in 'good' and 'bad' years respectively. Good and bad years are assumed equally probable. This is labelled variety 'B' in the text.

3 - Groundnut cultivators.

is much more 'developed' and the community has an especially long and intense history of involvement in regional and inter-regional trading networks dating back to late 19th century (cf. Howard, 1966; Mitchell, 1967; Finnegan, 1965; Fyle, 1979). Since Bumban is judged to be the 'wealthiest' of the three survey villages in terms of accumulated capital, it is not surprising that farmers here are more concerned with maximizing profits in the long run since their 'invested' capital is likely to absorb any shocks generated by failure. This result is not inconsistent with predictions of theoretical models that more commercially-oriented farmers tend to maximize profits rather than attempt to minimize potential maximum losses (cf. Barker, Oguntoyinbo and Richards, 1977). In Bumban, it is interesting to note that women farmers are particularly concerned with groundnuts. They explain that since these are produced mainly for sale (cf. Table 8:4) they would prefer a variety that earns them the greatest financial return.

Non-project farmers tend to belong to the 'poorer' segment of the communities surveyed (see Tables 6:1 and 6:5). Their preference can therefore be best understood in terms of a desire to minimize potential losses in order to guarantee the 'survival' of their families. It has been shown earlier that food shortages lead to a vicious circle of indebtedness, and it is this which poorer families seek, overall, to avert.

Risk minimization and profit maximization as opposite poles of the decision spectrum can also be invoked to understand women's choices (as already indicated). In Matotoka, all women farmers (project and non-project) opted for the low yield/ low risk variety of rice (see Table 7:1). By contrast, as many as two fifths of women farmers here opted for the high risk/high profit variety of groundnut. Again this was attributed to the fact that unlike rice, groundnut is perceived more as a 'cash' crop rather than a 'food' crop. Thus it is possible to argue that farmers adopt different decision strategies according to the place accupied by the crop concerned in their domestic economy.

7:3 Conclusion

To sum up, the above analysis leads to the conclusion that in examining trade-offs between yield and reliability, farmers in the study area, especially the less well-off, are more oriented towards rice varieties with steady results, in preference to those which give high but highly variable results from year to year. The position with regard to groundnuts may be different where these are grown for cash earning purposes.

It was clear from farmers' comments that the nature of the game was understood. The advantage (in average terms) of the high yielding variety was frequently commented upon, farmers then explicitly rejecting this advantage because of the associated disadvantage of high risk, thus confirming their concern with family survival when making farming decisions. All farmers proved capable of computing, analysing, and explaining the 'trade-off matrix' underlying their choices. This was neither surprising nor new as other studies have previously demonstrated the same level of quantitative ability among peasant farmers (cf. Barker, Oguntoyinbo and Richards, 1977; Cole and Gay, 1971). It does, however, refute Gould's (1963) suggestion that 'minimax' decisions are arrived 'at by a long-term process of unconscious adaptation'. The evidence here suggests that 'minimax' strategies are part of the continuing calculus of peasant decision-making deliberately designed to achieve specific objectives in production. Thus the validity of Gould's conclusion that farming behaviour is the result of 'a long period of trial and error' by villagers is questioned as it fails to take account of differences in the use of the end product from farming which partly determines the nature of the strategy adopted by farmers.

Given a clear majority in favour of risk minimizing strategy, it is suggested that it is of considerable importance to monitor the seasonal and spatial variability of response of agricultural innovations designed for poorer farmers in northern Sierra Leone. 'Average' net benefits from fertilizer application, for example, may be locally rejected if the variability of yields increases as a result. Thus the variability profiles of project improved seed varieties and labour inputs into different swamps are matters that require systematic 'monitoring' if project technology is to be redesigned to benefit a wider range of farmers. So far, it appears that the project has not established 'variability' monitoring as an element in its internal assessment procedures.

CHAPTER 8

WOMEN FARMERS AND RURAL CHANGE

8:1 Introduction

Women have long been recognized as playing a vital role in African agricultural production. The vital role played by women in agriculture led Boserup (1970) to characterize tropical Africa as 'the place of female farming par excellence'. In earlier chapters, the point was made that women constitute an important component of local agricultural labour (see fig.2:6). This chapter is an attempt to gain an understanding of the nature of female contribution to local agriculture and of women's potential for participation in development projects designed to increase agricultural production. Particular attention will be paid to the constraints experienced by women farmers and an attempt made to analyse the factors which underlie such constraints.

For reasons of resource and time limitations the survey of women farmers reported in this chapter was restricted to Bumban and Matotoka. Altogether 45 women were interviewed on matters relating to demographic characteristics, type of farming enterprise, problems of access to land and labour resources, marketing of outputs, their perceptions of IADP-North and their evaluation of existing agricultural extension procedures. Material was also collected on the associational activities of village women (including participation in work groups of the type described for male farmers elsewhere). It is argued here that women farmers are active in both the subsistence and exchange sectors of the rural economy. Empirical data presented below raise questions concerning the validity of the assertion that women are 'producers of subsistence' (cf. Mullings, 1976). It is suggested that such a formulation underestimates the extent to which women are engaged in commercial production. Even more singnificantly it also suggests a lack of awareness of the way in which socially constituted constraints specific to women farmers shape their agricultural activities.

8:2 Characteristics of women farmers

Nearly all women who are wives of male farmers have separate farms of their own, producing either subsistence crops or products for sale in local markets (or for urban-based market women who occasionally visit the villages in the study area). The harvest from these farms belongs to the women and most of the income derived from their sale is controlled by the women. Women also provide much needed agricultural labour on the household farm in the later part of the farming season (for weeding, birdscaring and harvesting). Thus it is often the case that the time women spend on their private farms tends to conflict with the time they are expected to spend on the common household farm (cf. Bukh, 1979).

The sample comprised 25 women cultivators in Matotoka and 20 in Bumban. In Matotoka 19 (i.e. 76%) were wives of houshold heads while the remainder were generally older-generation relatives of the head of the compound in which they resided. For Bumban, 17 were wives of household heads (85%) and 3 were older generation women living in the same compound as the male household head. Of a total of 36 wives surveyed, 23 or c. 64% were reported to be polygynously married. The incentive for an independent cash income is reinforced by polygyny, which implies considerable intra-household competition for common resources allocated by the husband. Thus women find it essential to have independent incomes which they can then use to meet the particular needs of their own children - for example expenses relating to children's education may be partly met by each mother.

The average age of Matotoka women farmers in the survey was 43. This compares with 39 for the Bumban sub-sample of women farmers. This appears to indicate that interest in farming is greatest in the case of middle-aged and older women. This result is contrary to Clarke's (1979) study of cocoa farming households in Yoruba land where it is shown that 'it is the younger women that are predominantly involved in agriculture, while their seniors tend to be more heavily involved in trade'. It is important to note, however, that Clarke's distinction relates to degree of participation in jointly operated farms rather than the ownership of individual farms. Field observation showed that younger women in the study villages were too heavily involved in nursing babies and other infants and also coping with household chores such as house cleaning, cooking and laundry to have much time for managing a private farm, in addition to helping on the joint

household farm. It is also probable that the relative insignificance of private farming by younger women also partly reflects their lack of negotiating strength in attempting to obtain land and labour at the proper times. By contrast, more senior women have social responsibilities such as hospitality to guests, which are easier to discharge with an independent food supply. Their need for cash income increases as their children become older and enter school. Table 8:3 shows that most of the female farmers surveyed (c. 65%) believed they would increase their interest in and commitment to farming in the future. This contrasts markedly with the views expressed by male project farmers, who thought that both their own and their children's future participation in farming would be minimal (see Table 6:6). Further explanation of these expectations by the women interviewed related mainly to the need for a cash income to finance the education of these expectations by the women interviewed related mainly to the need for a cash income to finance the education of their children and the purchase of clothes (one of the largest items a woman is expected to meet from her own resources).

In Matotoka 22 women in the sample had swamp rice plots (3 of these were registered with IADP-North), 2 had upland rice farms and 1 was a groundnut cultivator. In addition 23 out of the 25 women in the sample had a small second farm for corn (Zea mays), various local vegetables, sweet potatoes (Ipomoea batatas) , and pepper (Capsicon Spp). These were either gardens within the settlement or plots adjacent to the village. In Bumban 18 women reported groundnut farms, and 10 also reported swamp rice cultivation (typically holdings were under half a hectare). Two women cultivated millit (Pennisetum leonis). Seventeen members of the sample reported having kitchen gardens for maize and vegetables. Thus, in all, about 71% of the women farmers in the survey reported small scale swamp cultivation. Recalling chapter 4 it was suggested that farmers in the Study area appear to fall into three broad categories, namely, 'poor', 'middle' and 'wealthy' peasants. Each group, it was argued, conceives of different farming systems as either 'easy' or 'difficult' according to rather different criteria. In the terms of that analysis it would appear that women farmers belong to the 'poor' category. This is reflected in the degree of their interest in small-scale rice production (especially in Matotoka). Swamp cultivation is an 'easy' option because it tends to settle permanently the issue of negotiating land for cultivation from year to year as is the case with upland farming. An essential characteristic of women farmers is that they obtain land from their husbands. For uplands this generally takes the form of either incompletely fallowed land or new fallows from the previous year. Such land is not generally sought for rice

cultivation because of its inferior fertility status. But a more significant issue making swamp farming 'easier' from the standpoint of women farmers is the need for large amounts of labour to complete time-constrained activities on upland farms. Involvement of women on household farms means that limited time is left for their own farm work. Their responsibilities on the household farm also make it difficult to mobilize labour via 'companies' to operate uplands. Thus the popularity of swamp cultivation among women farmers should be understood within the context of these structural constraints.

8:3 Farm types, sizes and output

This section considers land use by women farmers and attempts to compare men and women farmers in terms of the degree of 'commercialization' of their respective farming systems. Table 8:1 summarizes relevant data on the size and output from women's farms in 1978 and 1979. Rice acreages in Matotoka and groundnut acreages in Bumban both appear to have increased between 1978 and 1979. The 1979 rice acreage figure for Bumban is lower than the figure reported for 1978. This reflects difficulties experienced by some women farmers in Bumban in obtaining land for rice cultivation in 1979. Women also reported that the ambition to cultivate more groundnut is frustrated by increasing difficulties in obtaining land. Groundnuts are a second year crop on land previously used by male farmers for upland rice cultivation. As pointed out elsewhere, some land-holding groups appear to have expanded at a greater rate than others. Thus it is possible for some families to experience shortages of suitable land for rice production. In these circumstances male farmers would require the same piece of land for a second season of rice. This seriously handicaps women farmers who would otherwise use such fallow land for their own production. Thus 14 out of 45 (or 31%) women farmers reported land shortages. Nine of these reports came from Bumban and 7 related to women cultivating groundnuts exclusively. By way of comment several of the women in the survey emphasised that it was more difficult for women to obtain land than men and that the difficulty appears to be increasing. Thus access to land appears a more serious limitation for women than for men farmers. The prevailing land tenure system, based on 'family' ownership (but with control and distribution in practice vested in the hands of influential male heads of extended families), appears to operate against the interests of poorer, less socially influential farmers in general and women farmers in particular. By contrast to their male counterparts, women farmers' access to land is further complicated by two

Table 8:1 Size and output (in bushels of seed planted and harvested) of women's farms in Matotoka and Bumban

	MATOTOKA		BUMBAN	
	Bushels planted	Harvested	Bushels planted	Harvested
RICE (1978)*	1.42	7.12	0.81	8.9
RICE (1979)+	1.52	-	0.68	-
GROUNDNUTS@	-	-	1.10	3.80

* Average of data for 23 farmers in Matotoka and 8 farmers in Bumban

\+ Average of data for 23 farmers in Matotoka and 10 farmers in Bumban

@ Average of data for 19 farmers in Bumban

Source: Karimu and Richards,1980

considerations:

(i) Women's rights to land within the family are realized through the men, usually husbands. Given that men control the access process it would appear that they will tend to treat women's economic interests as secondary to their own if there is any competition for economic resources. Men may, for instance, prefer that the women of the household should work on the common plots. It is not certain that the temptation to create artificial shortages of the kind of land needed by women is always avoided. Household farms commonly provide a substantial component of the family subsistence needs and success in this reduces the chances of male farmers becoming indebted for 'subsistence' reasons. This priority may cause a houshold head to operate against a woman farmer's plans to secure an independent cash income.

(ii) Women's access to land (especially upland) may be further restricted by the need to organize labour for initial farming tasks such as brushing and clearing which are predominantly male tasks.

Thus in terms of access to land it appears that 'women from poor families may be closest to being a 'landless peasantry' of any group in northern Sierra Leone' (Karimu and Richards, 1980; cf.Bukh, 1979: 52-56; Standt, 1977; Okala and Mabey,1975). It should be noted that this landlessness is socially constructed and not necessarily due to land shortage in the ecological sense.

As with land, women farmers also tend to have limited access to labour. It is important to recall the point made several times previously in this thesis that women provide essential agricultural labour in the study area (see for example Table 4:2 and compare with Fig.2:6). Most of this labour goes into male-controlled farming systems. Tasks such as weeding, birdscaring, and harvesting are dominated by women (cf. Atteh, 1980; Johnny, 1979). This is said to be because of the patience and care required in these tasks (an element in the socially-constructed picture that both men and women share concerning the nature of women). Table 8:2 summarizes data relating to sources of labour used by women farmers in the two villages covered. According to this table, 19 out of 25 Matotoka female farmers hired labour, mostly 'company' labour, and spent an average of Le. 16.50 per year for this purpose. Only almost one third of Bumban female farmers reported the use of hired labour and they spend much less on average for such purposes

Table:8:2 Sources of labour on women's farms in Matotoka and Bumban

Sources Of labour on women's farms	'Family' labour				Labour for cash*			
	Self	Husband	Co Wives	Children	relatives/ friends company+	Company male	Company female	Hired on daily rates
MATOTOKA (n = 23)	18	15	0	6	7	16	1	2
BUMBAN (n = 10) rice farmers	10	2	5	4	7	2	4	
BUMBAN (n = 20) Groundnut Farmers	19	3	5	8	14	3	2	2

+ 'Companies' to which women belong for which only nominal cash payments are made

* Average expenditure as follows:

Matotoka 16.5 leones per capita

Bumban 3.43 leones per capita

Source: Karimu & Richards, 1980

(between Le. 3.50 and Le. 5.00). The difference in use of hired labour reflects the balance of interest of women farmers in the two villages. Matotoka female farmers are predominantly swamp rice cultivators and initial work on swamps generally requires large inputs of male labour for land preparation. The Bumban sample, by contrast, is more interested in groundnut production as a second crop on new fallows. Labour inputs on such lands are considerably less than in swamp cultivation. Thus it is no surprise that Bumban female farmers use limited amounts of hired labour (see table 8:2). Matotoka farmers raised credit from husbands (6 cases), money lenders (4 cases), IADP (3 cases) and relatives (2 cases) to finance farm activities. Indigenous savings cooperatives, known in Krio as osusu (cf. Yoruba esusu), constitute another means of raising credit reported by women farmers in both villages.

Table 8:3 summarizes changes reported by sample women farmers in their farming activities. Sixteen women farmers reported that they had already increased the size of their farms by comparison with when they first farmed (on average between 4 and 7 years ago). Most of the women who reported smaller farm sizes for current farms were in the Bumban sample and this was explained as the result of difficulties in obtaining enough land. Above, it has been suggested that this is partly a situation in which the men are attempting to manipulate labour supplies. It is significant to note, therefore, that all 12 reports of labour shortages cited came from Bumban. This correlates with the finding demonstrated elsewhere that in terms of labour supply, Matotoka appears to be the best placed of the three villages surveyed for this thesis.

Of the total sample (n = 45) of women farmers, c.64% believed their interest in farming would increase in the future. Recalling chapter 6 it was shown that most male farmers (especially project houshold heads) appear to have a strong desire to move out of farming into trading and other activities. By contrast many women farmers appear to have an increasing interest in farming. This was often explained in terms of the need to raise cash to help educate their children. Thus even though women farmers may appear to have stronger commitments to farming themselves, their comments seem to be in line with the desires of the menfolk i.e. to translate the next generation of farmers into non-farm sectors of the economy via the acquisition of formal education.

Table 8:4 compares output, percentage of farmers selling crops and the average amounts of sales for men and women farmers (these are 'recalls' so the usual caveat applies).

Table 8:3 Aspects of change in women's agriculture, Matotoka and Bumban

Size of 1979 farm compared to previous farms	Smaller	Same size	Bigger	No response
MATOTOKA	3	10	8	2
BUMBAN	10	1	8	1
Estimate of future interest in farming	**Less**	**Same**	**More**	**No response**
MATOTOKA	1	10	12	
BUMBAN	2	0	17	1
Present difficulties in obtaining labour compared to past	**Less**	**Same as**	**Greater**	
MATOTOKA	0	15	0	
BUMBAN	0	0	12	(+ 8 don't know)

Source: Karimu and Richards 1980

Table 8:4 Output from men's and women's farms compared

	Sample Size	Average Output per farmer (bushels)	Farmers with sales	Average crop sales (in bushels)
BUMBAN WOMEN				
Groundnuts	18/20	4.3	8/18	2.6
Rice	10/20	7.6	3/10	1.23
MATOTOKA WOMEN				
Swamp rice	18/25	6.94	6/18	3.83
Upland rice	3/25	13.3	2/3	0.0
Project swamp	2/25	6.5	2/2	5.3
BUMBAN MEN				
Project swamp	18/19	40.00	11/18	27 .00
Non-project swamp	18/18	38.00	13/18	20.00
Upland	16/18	38.4	?	?
MATOTOKA MEN				
Project swamp	18/18	46.36	9/18	11.33
Non-project swamp	13/19	45.00	7/19	7.57

Source: Karimu and Richards, 1980

By comparison with the data for the men, output and crop sales from women's farms are small, ranging between one fifth and one third the comparable figures for men's farms. In some cases, however, a higher percentage of total output is marketed, e.g. women swamp farmers in Matotoka. (The small size of outputs from women's farms reflects both the scale of their farming enterprises and the constraints they experience in gaining access to resources). Groundnut sales by women farmers are especially notable. Eight out of 18 female groundnuts producers sold more than 50% of their production. In all, reported sales amounted to 27% of total production by sample female farmers in Bumban. Similarly in Matotoka over one third of the sample reported rice sale from their individually owned swamps (averaging c.4 bushels per year per copita). This is, for example, twice as much rice sold as the average amounts remitted by male farmers to support urban kin (see chapter 4). This contradicts generalizations such as Mulling's (1976) notion that women are soley 'producers of subsistence' in rural communities. It is true, as noted by Bukh (1979), among others, that village women play a significant role in family reproduction. But in northern Sierra Leone it would appear that tyey are not significantly specialized in this role and that they make contributions to the household budget beyond the limits of subsistence. The driving desire to help with children's education, for example, has meant the gradual 'commoditization' of women's involvement in farming. Karimu and Richards (1980: 52) present figures which appear to show that the majority of women deriving income from crop sales have control over such earnings. In several cases these resources were used for hiring labour, a major constraint on women cultivators, for next season's farming. In this instance only 9 out of 26 women reporting cash earnings from crop sales gave some of the money to their husbands (only one woman reported handing all her cash earnings to the husband). A possible future area of research would be to assess the impact of tendencies towards privatization of cash earnings on the structure of the household economy. A thorough analysis o f how and why the household economy operates the way it does under conditions of agricultural change is essential if furture project planning is to escapte from the kinds of misconceptions already noted in relation to the credit programme of IADP-North.

8:4 Groundnut cultivation and Women's access to extension services

The agricultural extension model in use in the majority of African countries stresses the idea of concentrating on wealthier and supposedly more influential male farmers - so-called 'progressive farmers' or 'farmers capable of modernizing their farms' (National Development Plan 1974-1979:129). In effect the extension service has concentrated on larger-scale male farmers who are perhaps the least 'needy' in many agricultural communities. Women farmers are at a particular disadvantage from this point of view. For example, Standt's (1977) study of extension service provision in Kenya showed that women farmers experience a 'persistent and pervasive bias in the delivery of agricultural services' (cf. Bukh, 1979). She went on to note that men and women farmers are significantly different in terms of their access to extension service.

The typical extension model outlined above appears to be based on the assumption that women farmers are more conservative, and less knowledgeable about technical innovations than their male counterparts. Table 8:5 summarizes non-project women farmers' perceptions of the Northern Area IADP. Even though IADP tends to assume that male farmers are its main target (because only they are sufficiently motivated to innovate) women farmers in the two villages covered proved to have a good knowledge of IADP-North as an organization and of its technological input package. Thus 77% of the sample reported knowledge of IADP and nearly everyone of this group was able to explain the specific activities of IADP.

But by contrast, only 3 out of 45 women farmers reported any contact with an extension officer. These were all registered project farmers in Matotoka. Groundnut is one of the principal crops being promoted by the project in the study area. Women consider groundnuts to be their speciality crop. Men, they say, do not have the patience to plant, weed and harvest a groundnut farm to a high technical standard. As pointed out in the methodology chapter, male ideology stresses the importance of measuring effort in terms of the ectent of land cleared and not the care with which the work is done. Philips (1980) argues that in the Gambia women and small children are more efficient at weeding than male adults. In the Bumban sample 17 out of 20 women thought they were better at groundnut cultivation than men. The other three did not know. Thus nearly

Table 8:5 Women farmers' perceptions of the Northern Area IADP

WOMEN FARMERS' PERCEPTIONS OF PROJECT ACTIVITIES
(Sample: 40 non-project women farmers in Matotoka and Bumban)

	Loans	Tools	Seeds	Fertilizer	New Methods	TOTAL*
MATOTOKA	10	14	18	20	3	20/20
BUMBAN	7	5	6	9	0	11/20

* Number of women who have heard of the project

Source: Karimu and Richards, 1980

Table 8:6 Women farmers' preferences for women extension agents

	Women Extension Agent Preferred	No Preference for Woman Extension Agent
Matotoka	4	21
Bumban	16	2

(n = 44)

Source: Karimu and Richards, 1980

all Bumban women would prefer a female extension agent (see table 8:6). They doubted whether a male extension agent could be effective because he would be unable or unwilling to participate fully in the work in the field. Comradeship and ability to share relevant ideas while working were the relevant qualities stressed by Bumban groundnut cultivators.

By contrast Matotoka women farmers are mainly rice cultivators and as a result showed much less enthusiasm for a female extension agent (see table *:6). This is partly because rice is equally a 'man's crop'. Men are thought to be just as knowledgeable about rice production as women. Thus it would appear that women farmers are neglected by IADP field staff, but that in any case lack of trained women extension agents may be a further handicap in the groundnut programme.

8:5 Summary and Conclusion

Women have a strong commitment to farming and there are some grounds for thinking that they are likely to respond well to IADP help. One member of the field credit staff of the project noted that women were better than men in loan repayment because they were especially concerned to avoid the stigma attached to court action. The evidence here shows that despite there being no female project farmers in Bumban more than half the sample interviewed in Bumban, and all the non-project women farmers in Matotoka, had some knowledge of the project.

The point has been argued that women farmers experience problems of access to the vital productive resources of land and labour. Women's desire to secure an independent cash income appears to be increasing. The Project - even on its own terms as an agency committed to the commercialization of agriculture - should pay more attention to the potential role of women in agricultural development. Project inputs are, at the moment, probably beyond the reach of many women farmers (due to the small scale of their existing operations). It is suggested here therfore that what is needed is not only a reduction in the scale of the input packages to render these more appropriate for women farmers: a more basic requirement is a much more thoroughgoing attempt to understand the social and economic forces which tend to reduce women to the status of a near 'landless peasantry'

CHAPTER 9

THE SPATIAL IMPACT OF INTEGRATED RURAL DEVELOPMENT IN NORTHERN SIERRA LEONE

9:1 Introduction

This chapter attempts a regional planning evaluation of the development process initiated by IADP-North. The spatial pattern of Project infrastructure designed to facilitate the process of change will be analysed and critically evaluated. Particular attention will be paid to an evaluation of the effectiveness of the project farm access roads and village water supply improvement programmes. It is essential to note that IADP management is aware of the close relationship between its output-increasing efforts and the need for access to markets. For this reason the Project coordinates an extensive Feeder Road Construction Programme. It also provides village wells. Water supply improvements are intended to release labour so far locked up in the tedious business of collecting water in the dry season from streams and ponds (women and children are especially involved in such tasks). These two infrastructural investments are viewed as critical to the attainment of project objectives of improving the welfare of small farmers. Thus the first part of this chapter proceeds by examining two specific hypotheses which aim to test the internal consistency of project's overall development objectives. These hypotheses are:

(i) that the existing pattern of infrastructure is inadequate to the needs of agricultural development in the study area

(ii) that infrastructural allocation decisions derive from a systematically applied definition of need for road and water supply resources in the project area.

The final part of this chapter will focus on an analysis of the geographical distribution of Project participants for the light it sheds on recruitment policies and local response. An attempt will be made to indicate the overall pattern of response to the crop component of IADP-North. Particular attention will be paid to the notion that the observed pattern of response to the project package reflects ecological considerations on the one hand, and historical and contemporary socio-economic forces on the other hand.

9:2 Analysis of IADP spatial resource allocation strategies

Integrated rural development approaches, of which IADP-North is an example, are generally formulated against a background of growth centre planning models (Perroux, 1950, 1955; Friedman, 1966; Myrdal, 1957; Hirschman, 1958; Mabogunje, 1971; Monsted, 1974; Darkoh, 1973; Santos, 1975). In general, all the countries in which the 'growth centre' concept has been used as a planning instrument have done so to either limit urban concentration, spread growth to 'backward' areas or to combine both these policy objectives.

IADP-North can be viewed, in some respects, as an off-shoot of the growth centre strategy, in which the aim is to 'reach' a relatively accessible 'target' population in the first instance and for the benefits of development to subsequently diffuse to more 'backward' areas over time. Considerable criticism has been aimed at the diffusionist assumptions, built into growth pole theory. Studies in Nigeria, among others, suggest that the growth pole as a diffustion model simply does not work (Mabogunje, 1971). Even the notion of a 'target population' has been the subject of recent criticism among practitioners as well as development studies academics. Mabogunje (1980) for example, characterises it as a misleading notion in the African context as long lasting, self-sustaining development should be designed to affect the entire population, given the overall level of poverty in African rural areas.[1] With such broad conceptual issues in mind attention is now focused on IADP resource allocation strategies designed to facilitate the spread of growth from 'target' populations to the mass of farmers in its area of operations.

The basic transport network for the study area is depicted on Fig. 9:1. Prior to the current Feeder road construction programme, the transport network comprised roughly 360 Km of Government-built roads maintained by the Misistry of Works. The Feeder road programme is designed to add a further 354 Km, through the construction of either new roads or upgrading of existing feeder roads, some of which have been built by communtiy self-help efforts.

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1. Professor Mabogunje further developed this view at a recent seminar (Anthropology Dept., University college, London, December 1980) in criticism of World Bank Rural Development planning approaches in Nigeria.

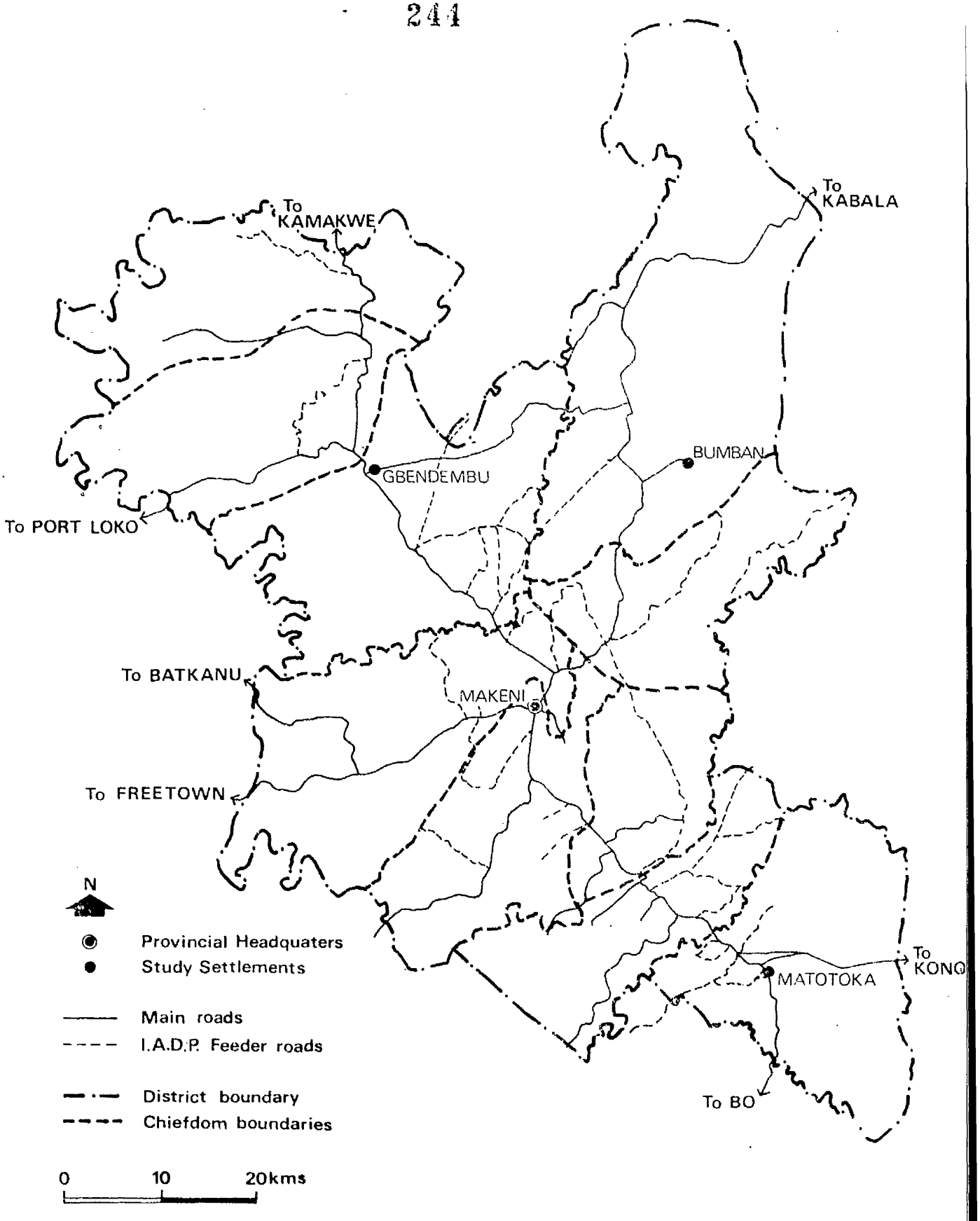

Fig 9:1 Communication pattern in the study area.

Fig. 9:2 depicts the pattern of distribution of IADP village wells programme (planned and actual). With Feeder road distribution shown on the same map (see Fig. 9:2) it is easy to see the rather close correspondence between Feeder road and village well allocations within the Project area.

Table 9:1 shows the distribution of village wells according to the size of communities involved. In all, 98 villages within the Project area were designated as villages included in the IADP wells programme by June 1979. The combined population of these villages was estimated at 35,598 which implies that only 16.5% of the project area population[1] would have been provided with village wells at the end of the investment period.

Both the methodology and the nature of the statistical data on which these allocation decisions were based embody serious problems. It is essential to have in mind the caveat that most of the information was collected by agricultural extension personnel with little training in spatial survey techniques. Discussion with extension staff during fieldwork suggests that several of them viewed the data collection exercise as a secondary issue designed to maximize the use of available free time. One extension worker described the data collection exercise thus:

> 'We simply treat the collection of material about village sizes as part of our annual 'targets' on the basis of which we get assessed for promotion.[2]

In this instance the extension worker went on to explain that village population estimates were based on house counts multiplied by twelve which was believed to be the typical size of a village dwelling. Reconnaisance fieldwork in several villages other than the three main survey settlements does not lend support to the assumption that a 'typical' village dwelling has twelve inhabitants. In these kinds of circumstances the reliability of the figures presented from 'within' the project is open to doubt.

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1. Figures base d on provisional 1974 Census results.

2. Transcript of a tape recorded interview at IADP headquarters, Makeni - 30/11/79.

Table 9:1 Population Distribution among villages in I.A.D.P. Wells Programme, 1979.

Population class	No. of villages	%of total Villages	Combined Population	% of total Population
1 99	3	3	276	1
100 - 199	20	20	3228	9
200 - 299	25	26	5982	17
300 - 399	17	17	6096	17
400 - 499	19	19	8598	24
500 - 599	5	5	2736	8
600 - 699	3	3	1932	5
700 - 799	1	1	744	2
800 - 899	2	2	1728	5
900 - 999	2	2	1908	5
1000 - +	1	1	2460	7
TOTAL	98	99	35,598	100

Source: I.A.D.P Quarterly Report, June 30, 1979

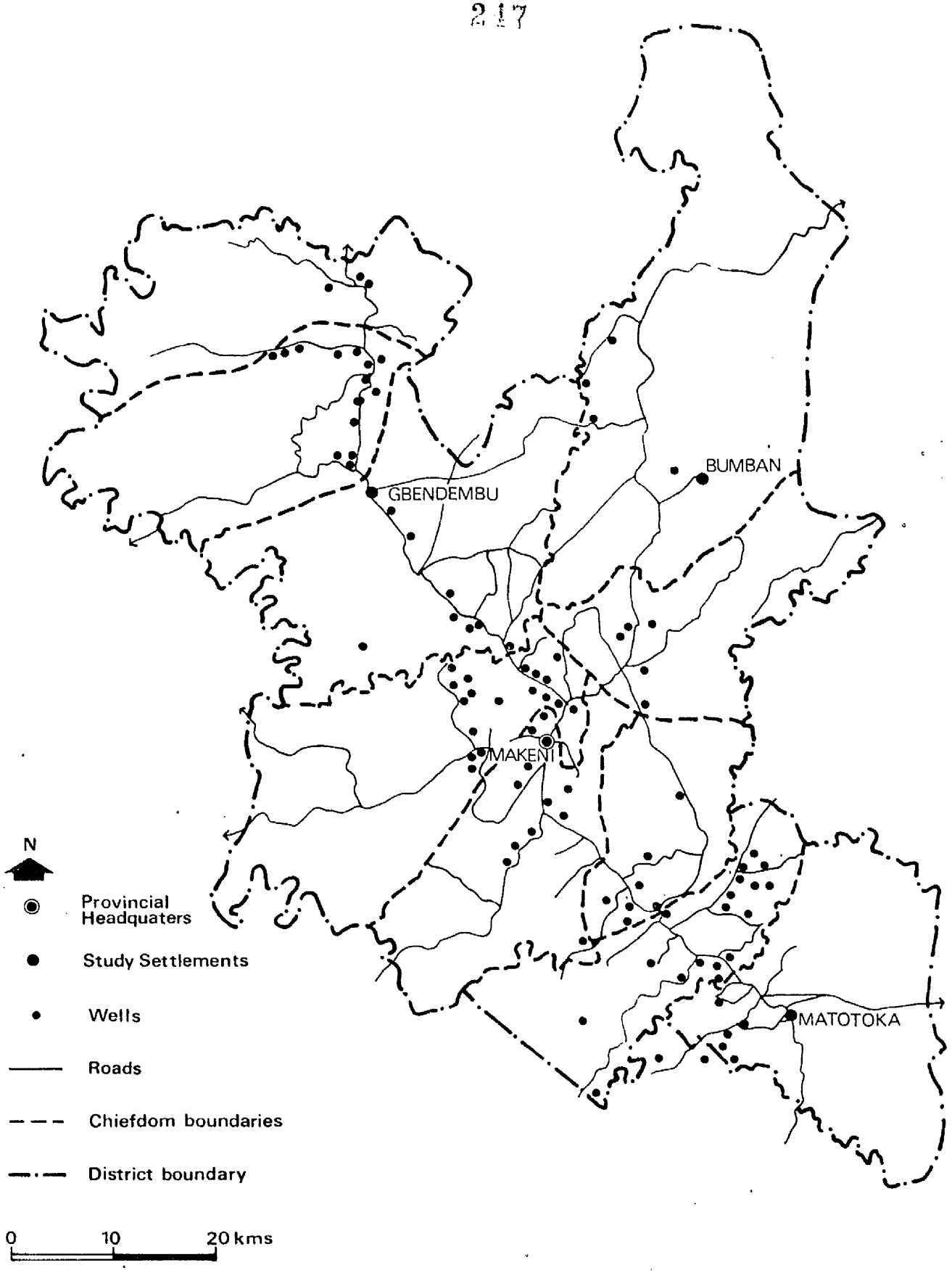

Fig 9:2 The distribution of I.A.D.P Village Wells, 1979.

65% of all villages with well allocations are located on roads, 30.4% of which belong to the project co-ordinated Feeder road network. Although perhaps 25-30% of all villages in the project area are located more than 2 km from any road, the proportion of such villages included in the IADP wells programme is only 4.3%. Thus it can be seen that Management decision favour well allocation in the more accessible areas of the region.

The relative efficiency of motor transport in goods haulage in West Africa should imply that building a road represents significant progress for any agricultural community. The World Bank planners assume that Feeder roads would bring in 5 km on either side of the road fully within the sphere of influence of the project. But difficult conditions such as precipitous slopes (see Fig 2:3), wet and swampy stretches and the actute shortage of able bodied manpower characteristic of the Study area cast some doubt on this planning assumption. It will be treated here as an outside limit i.e. that it is unrealistic to expect much additional production for sale if the surplus has to be headloaded 5 km to a road head, or much uptake of innivations such as fertilizers and improved planting materials, if these have to be head-loaded a similar distance back to the village. Equally a 10km round trip on foot presents a considerable disincentive to agricultural extension work, given that extension personnel normally work with the use of a motor cycle. Fieldwork reconnaisance in more remote areas around Gbendembu and Bumban i.e. in the Mobole valley and Gbengbe hills regions, showed minimal contact with the project and its innovations in any village more than 2 km from a motorable road or track.

The project area is circa 4,600 sq km in total area. Using a 2 km criterion to measure accessibility, existing road networks (see Fig 9:1) would permit regular project involvement for only 30% of the project area (see Table 9:2 c.f. Fig 9:3). Analysis of settlement distribution, in relation to the 2 km criterion, on topographic sheets covering the project area, shows that the Feeder roads programme will bring another 30% of the area inot IADP-North's effective sphere of influence (the results are presented in Table 9:2). Thus as shown in Fig 9:3 about 40% of the project area will remain relatively inaccessible at the end of the road investment programme. The proportion of inaccessible territory within the project area would, of course, be substantially reduced by applying the official 5 km yardstick. Even so certain areas will still lie beyond the reach of motor roads (see Figure 9:4) notably the rugged country lying to the North-east of Bumban.

Table 9:2 The distribution of inaccessible settlements in the northern Project area (i.e. settlements which will be 2km or more from the nearest motorable road when the CARE feeder programme is complete)

	Map Sheet (Sierra Leone 1:50,000 Series)	Number of inaccessible Settlements A	Total number of Settlements B	Estimated Area (km2)
1.	28	31	45	193
2.	19	26	60	116
3.	20	52	83	383
4.	30	35	95	472
5;	31	40	195	624
6.	32	63	142	540
7.	42	21	35	136
8.	43	42	243	729
9.	44	40	120	456
10.	45	2	2	10
11.	53	3	3	12
12.	54	45	68	315
13.	55	22	123	478
14.	56	11	19	130
Total		433 (A/B = 35%)	1233	4594

Source: Based on settlement analysis from relevant topographic sheets for the project area.

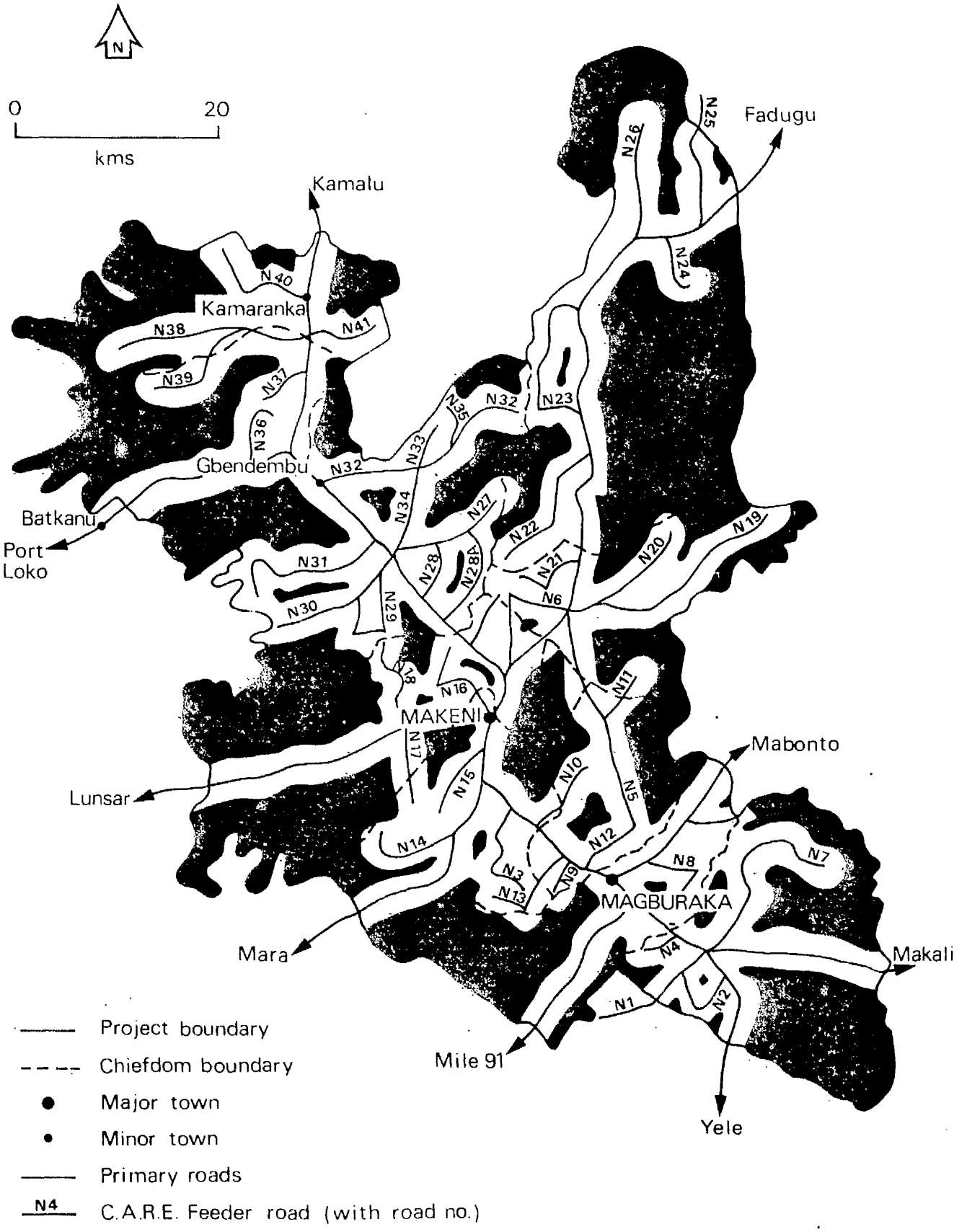

Fig 9:3 Proportion of Northern Project area within 2 km of IADP/CARE Feeder Road.

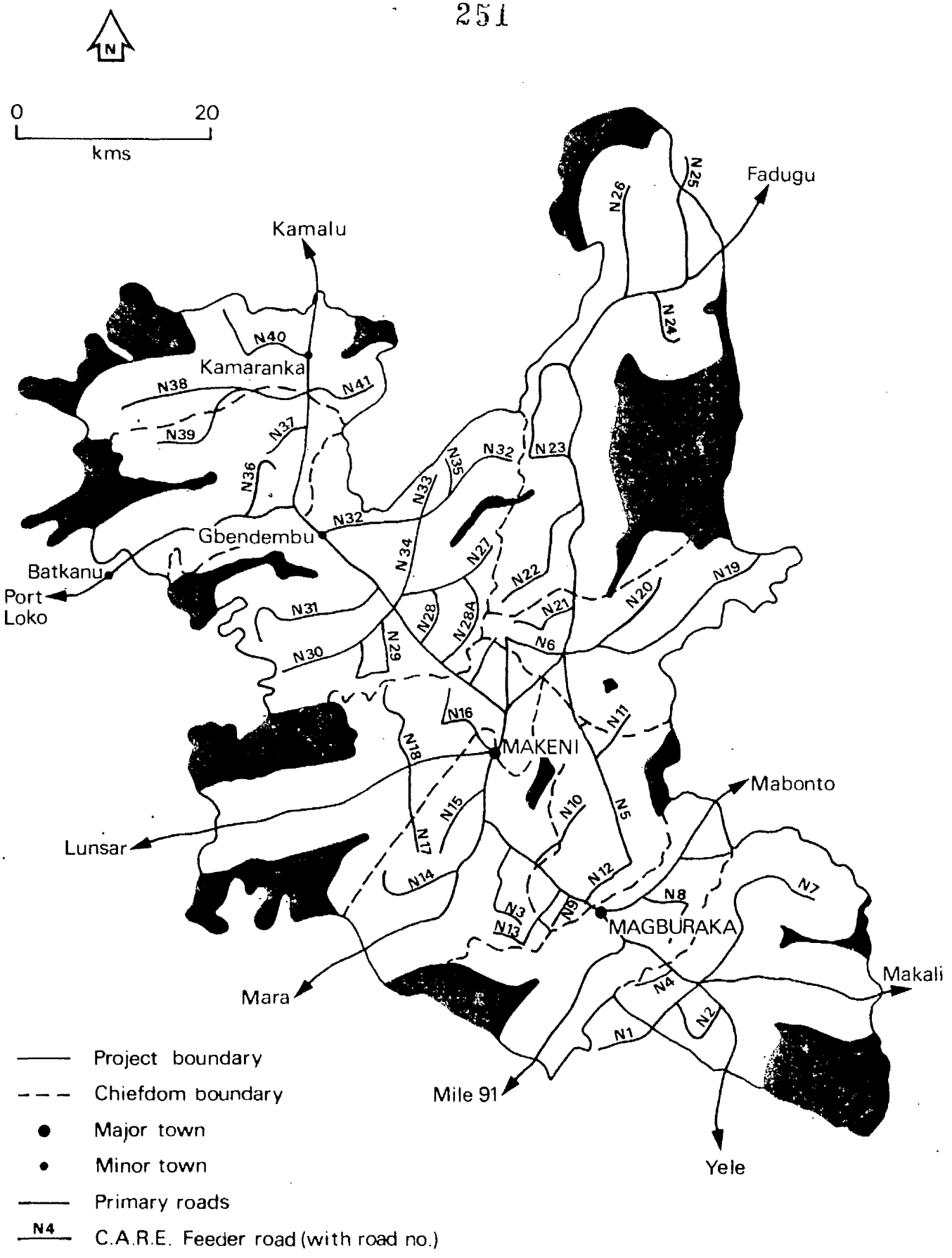

Fig 9:4 Proportion of Northern Project area within 5 km of IADP/CARE Feeder Roads.

The evidence presented thus far would appear to suggest that existing regional inequalities in infrastructural facilities are likely to be reinforced rather than reduced by project regional planning decisions. As indicated above both the pattern of Feeder road and village well distribution follow too closely upon the established transport network in the area. This would imply that these new developments might have a reduced impact on agricultural development in the study area.

9:3 An evaluation of IADP Spatial resource Allocation process

Using project data, census material and field survey information, spatial resource allocation policies of the project will be examined from the point of view of various definitions of 'need'. In order to gain an insight into the accessibility problems of isolated settlements within the IADP area, (and in particular to assess local opinion concerning the effect of such problems on innovation adoption) seventeen off-road village communities were visited during the field work for this study. In each of these data were compiled on:

(a) total number of houses in the village.
(b) the number of persons resident in each house;
(c) the extent of knowledge of IADP activities in other areas and;
(d) general discussions on farming problems in the villages visited.

The average size of the sample of villages was found to be 16 households and 143 persons. By, contrast villages located on the principal communication networks tend to be larger. The latter, on average, have circa 43 households and 350 persons (cf. IADP Quarterly report, June 1979). Thus 'isolated' settlements tend to be smaller in size than the average road-side village. Spatial mobility - relocation of households and frequently entire communities - as a mechanism for maximizing access to the 'benefits of modernization' has deep historical roots in the study area. In a study of settlement pattern evolution in the north-western parts of the present IADP area, Turay (1973) showed a substantial growth in new settlements following the completion of the major communication arteries during the colonial era. Fluid settlement patterns, whether representing response to ecological conditions or reflecting the need to resolve social conflict, have been a characteristic feature of the African landscape since pre-colonial times (Abraham, 1971; Gleave, 1966; Godfrey, 1975; Rodney, 1976; Fyle, 1979; Burnham, 1980). Whereas it is possible that 'isolated' villages might in the end resolve their problems by shifting to a road it is the case that in the short-term these off-road settlements are clearly an important feature of the landscape. They

constitute home for about 29% of the total population of the Project area. Project decision-makers are reticent about the likely fate of isolated villages. It has been noted elsewhere that contemporary World Bank development orthodoxy stresses the need for development to reach 'the bottom 40%' of the rural poor (see IBRD Sector policy paper, 1975). Within the framework of World Bank rural development policy it can be argued that IADP requires an explicit policy for isolated areas. Hence the purpose of the following analysis is to try and dig out the policy pursued by the project decision-makers and open it up to explicit discussion.

So far it has been argued that the existing pattern of infrastructure allocation appears to do little, by itself, to overcome isolation. Rather than solve accessibility problems for isolated communities, there is a strong tendency to intensify the existing regional inequalities in infrastructural provision, initiated and sustained by Government development policies. The logical implication, therefore, is that given the pattern resulting from the existing road programme (see Fig 9:1), issues of route alignment and network geometry must be subject to critical scrutiny.

Discussion with Project Management suggests that in policy terms roads and wells are designed partly to stimulate and partly to reward interest in IADP innovations. It is doubtful, however, whether the 'stimulus' aspect of project policy carries equal weight as the 'reward' consideration when resource allocation decisions are made. Clearly, in the case of village wells, the IADP policy position has been one of viewing the provision of wells as a reward for interest in other aspects of the project. The adoption of project farming techniques and the associated inputs by village communities is considered a vital issue in the decision to locate a well in a particular village or not. This position is clearly documented in a quarterly report of the project thus (IADP Quaterly Report, June 1979)

> The first step in any wells programme is to select the village which is going to receive wells. To do this we first obtain from our Agricultural officers in an area a preliminary list of villages which need water and have shown high involvement in other IADP programmes. From this list we choose potential villages. . . . . (my emphasis).

Feeder road allocation on the other hand was initially decided in relation to a regional resource survey undertaken by the extension staff of IADP. The objective was to assess the agricultural potential of the areas covered as well as some evaluation of the potential for the utilization of the proposed feeder roads. The relevant survey document is presented in appendix 1. It lists estimated population and potential acreages of project crops along the line of proposed feeder roads. Additional data in the survey document (see appendix 1) include:

(a) Chiefdom for which a road proposal has been forewarded;

(b) approximate length of the different roads for each of the chiefdoms included in the feeder road programme for the period 1978-1981;

(c) information on the number of villages a proposed road will traverse, total number of houses in these villages and an estimated total population for the villages;

(d) estimated acreages for swamp and upland rice production as well as acreages of suitable land for groundnut cultivation for each road length proposed.

According to appendix 1, the agricultural potential associated with the different road tracks was assessed in terms of two categories labelled 'high' and 'very high'. Altogether 27 road sections were identified in the 'high potential' category whereas 13 road sections were classified as traversing areas of 'very high' agricultural development potential. As already indicated major conceptual problems arise when these data are to be analysed. It is not, for example, clear (either from the survey document or from discussion with project management) what the terms 'high' and 'very high' agricultural development potential are supposed to reflect or whether there was any possible means to ensure that the individuals involved in the survey applied these terms consistently. Some observations concerning the conceptual basis for compiling these

regional planning data are therefore appropriate at this juncture.

A close perusal of the material now presented as appendix 1 reveals a number of inconsistencies. For example there appears to be no systematic difference between areas assigned to the 'high and 'very high' categories either in terms of population concentration or land resource potential for rice or groundnuts. The two feeder road sections labelled N1 and N9 (see appendix 1) in the survey document show this apparent lack of distinction between the categories used for reaching a decision. In this instance feeder roads N1 and N9 are assessed as traversing areas of 'high' and 'very high' agricultural potential respectively. An examination of the details, however, shows that feeder road section N1 has more agricultural land and a greater population concentration than road section N9. According to the Feeder road Survey results, there are 1864 acres of swamp, 3703 acres of upland and 325 acres suitable for groundnut cultivation along the line of N1. The nine villages surveyed by IADP staff along this route has an estimated population of 3,774 inhabitants. The comparative figures for road section N9 are only 100 acres of swamp land, 300 acres of upland and 180 acres of land suitable for groundnut production. By contrast to N1, there are only 5 villages along the line of road N9 with an estimated population of only 1752. Thus even in the terms of the Projects own Survey the categories 'high' and 'very high' (as indicators of agricultural development potential) do not appear to have an objective definition. When attention is focused on road sections recorded as N19 and N36 it becomes clear that even within the same category there are considerable inconsistencies in the use of the relevant terms. For road section N19 the IADP survey result show an estimated population of 4650 inhabitants (13 villages altogether), 600 acres of swamp land, 800 acres of upland and 400 acres of land for groundnut production. By contrast the survey results for road section N36 (see appendix 1) shows an estimated 740 people for the area traversed, with 15 acres of swamp land, 10 acres of upland and no land potentially available for groundnut cultivation. Despite these significant differences in population and land resource availability terms, the two road sections were assessed as belonging to areas of 'very high agricultural potential' (see relevant rows in appendix 1). Such inconsistencies give rise to two main questions, namely:

(i) where is the cut-off point between the two categories of agricultural land potential?

(ii) To what extent is the statistical information intended to serve a legitimizing role for decisions that are reached on other grounds (i.e. in a political context)?

These questions cannot be adequately resolved by this study. The first is unanswerable because an underdefined concept is involved: the second because the 'political' dimension of a project such as this is carefully disguised and information is hard to come by. Nevertheless some appropriate suggestions will be offered in the conclusion to this chapter. Meanwhile attention

is paid to evaluating the road programme in terms of the data the project has given, irrespective of the inconsistencies thereby involved.

The population and acreage (hectarage) estimates presented in appendix 1 have been 'standardized' per kilometre of road. The resulting figures have been divided into 'below median' and 'above median' categories and presented in Table 9:3. It might be expected that 'above Median' should correspond to the projects own 'very high potential' category, if road allocation decisions are based on development potential (i.e. the need to concentrate resources initially at least, in areas most likely to respond to stimulus).

The results of a non-parametric statistical analysis measuring the association (using the project's own data) between each chiefdom's assessed agricultural potential and allocation of infrastructure is presented along side table 9:3. The existence of the hypothesised relationship is not established. The correspondence is minimal and statistically insignificant. It is therefore concluded that project road allocation decisions do not reflect potential for development, even using the project's own data base.

Table 9:4 attempts to assess the 'fit' between infrasturctural allocation and the so-called 'stimulus' and 'response' aspects of project policy noted earlier in this chapter. Two criteria for 'need' or 'target' formulation are suggested here. One of these is based on the percentage of total project area population in each of the chiefdoms (viewed to be equivalent to the 'stimulus' aspect of project policy). The other criterion relates to each chiefdom's pecentage share of the total registered hectarage of project crops (i.e. combined acreages for swamp rice, upland rice and groundnuts as at the end of the 1979 cultivation season). Table 9:4 shows that the degree of 'fit' is variable from chiefdom to chiefdom. An index of correspondence can be obtained by summing up the differences between each chiefdom's percentage share of project infrastructural allocation (feeder road s and wells combined) on the one hand, and its percentage share of the project area population and project acreages on the other. Within this framework, the greatest anomalies tend to accur between feeder road allocations and population. Gbendembu Gowahan chiefdom, for example, accounting for only 11% of total population has 25% of all Feeder roads. This compares with Kholifa chiefdom which contains about 15% of total project area population but having only 5% of Feeder road allocations. The closest correspondence is between response to project initiatives (as measured in acreages of project crops) and project well allocation. This correspondence reflects the suggestion made earlier on that in relation to wells , project policy has appeared to emphasise reward for participation in other IADP activities to the exclusion of stimulating such participation.

Table 9:3 Assessment of degree of 'fit' between feeder road allocationa and project's assessments of agricultural potential.

ASSESSED AGRICULTURAL POTENTIAL
Routes for feeder roads assessed as:

		Higher potential	lower potential	
ESTIMATED ACREAGE PER KM OF ROAD *	Above median	7	14	Phi = 0.14^{+}
	Below median	4	15	$Chi^2 = 0.78^{+}$

		Higher potential	Lower potential	
ESTIMATED POPULATION PER KM OF ROAD *	Above Median	5	16	Phi = -0.09^{+}
	Below median	6	13	$Chi^2 = 0.32^{+}$

*Survey data collected by project staff/assessments by project staff

+ Statistically insignificant

Table 9:4 Assessing project infrastructure allocations on a chiefdom basis

Chiefdom	Target 1 (based on Population)	Project infrastructure allocations			Target 2* (based on project acreages, 1979)
		Feeder roads +	Total road mileage	Wells	
TANE	6%	14%	10%	6%	11%
KHOLIFA	15%	5%	8%	15%	14%
BIMBALI SEBORA	18%	6%	7%	9%	13%
PAKI MASABONG	5%	11%	8%	11%	11%
BIRIWA	12%	13%	16%	12%	8%
SAFROKO LIMBA	7%	12%	8%	7%	4%
GBENDEMBU G/HUN	11%	25%	19%	7%	8%
MAKARI GBANTI	12%	6%	10%	18%	17%
SANDA TENDARAN	7%	4%	7%	11%	7½%
GBANTI KAMARANKA	7%	7%	7%	6%	6½%

* Combined acreage for swamp rice, upland rice and groundnuts as at the end of the 1979 cultivation season.

+ Planned mileage of farm access roads, c1/3 completed at the end of the 1979/80 dry season

To further test the extent to which infrastructure allocation reflect development potential in the study area, a non-parametric correlation analysis was applied to the following variables:

(i) percentage of project area population in each of the chiefdoms;

(ii) percentage of total road mileage in each of teh chiefdoms;

(iii) Each chiefdom's share of the village wells programme.

(iv) Each Chiefdom's share of the total hactarage of IADP crops.

Spearman rank correlation coefficients were then calculated for all possible, non-redundant pairings and the result presented in Table 9:5.

It is significant to note that the vital correlation between feeder road mileage, population (1974) and project crop hectarage are negative with regards to 1978 data (cf Table 9:4). However, some of the correlations show significant improvements when 1979 data is considered. Nevertheless, the highly insignificant values of most of the coefficients (see Table 9:5) help establish the point that only a purely random association exists between the relevant variables. The results of the statistical analyses thus far suggests rejection of the hypothesis that infrastructural allocation decisions derive from a systematically applied definition of need for road and water supply resources in the project area.

It has been suggested elsewhere in this chapter that the existing pattern of infrastructure is inadequate to the needs of agricultural development in the study area. An attempt will be made here to assess the potential economic impact of IADP Feeder road programme. The average cost per Kilometre of feeder road built up to 1979 was estimated at US $ 18,000. By contrast similar feeder road systems built under ILO supervision in Kenya are estimated to cost, on average, US $ 5,600 per Kilometre (cf de Veen, 1980). An evaluation study of the latter feeder road programme suggests that it is labour contribution rather than financial input that is more 'sensitive' to spatial variation in the terrain characteristics of the road sections. (Labour is reported to be mainly contributed by members of the village communities on a self-help basis). But even in this instance the report notes that 'with improved organization and management techniques there is a definite downword trend in the number of man days used in the construction of an average kilometre of rural access roads' (ILO, 1980:11). Two points are raised here by the above comparison of costs: first it is suggested that IADP'S assertion that 'the high cost of the existing standards has reduced targets to a minimum' appear to imply that under the existing feeder road programme, there are substantial obstacles to the achievement of the broader objectives of the project i.e. the incorporation of subsisten ce farmers in isolated areas into the main stream of the national cash economy. Secondly, the comparison serves to indicate that possibilities exist for minimizing costs per kilometre of road

Table 9:5 Rank-order correlation matrix to test the extent to which infrastructure allocations reflect basic need (determined by population size) and project response (registered acres of project crops)

	Popn	Roads	Wells	Acres (1978)	Acres (1979)
POPN	1.0				
ROADS	-0.24	1.00			
WELLS	0.47*	-0.18	1.00		
1978 ACRES	0.19	-0.19	0.02	1.00	
1979 ACRES	0.50*	0.31	0.43*	-	1.00

*Statistically significant at the 5% level

Source: Based on provisional 1974 Census figures and IADP register of farmers for 1978 and 1979;

built and thereby reaching a much wider area.

For the purposes of the analysis pursued here it is assumed that the IADP Feeder road programme would be justified exclusively in terms of project economic activities. Karimu and Richards (1980) have shown that the typical project farmer sells between 9 and 12 bushels of rice a year. For the entire Northern province of Sierra Leone an average of 10 bushels per farmer per year was reported by the agricultural statistical survey (ASSSL, 1970/71). Farmers in the Bombali and Tonkolili districts (parts of which constitute the IADP sphere of activities) reported an average rice sale figure of 7 and 9 bushels respectively (see Table 9:6). In 1970/71, 29.2% of all via sold by farmers in Northern Sierra Leone was accounted for by the latter districts. The northern province accounted for 64.4% of the entire national rice trade (cf Table 9:6). The typical rice sale figure from Karimu and Richards (1980) appear to suggest a greater degree of commercialization of rice among Project farmers. National rice sale per farmer is estimated at 7.4 bushels per year (cf ASSSL, 1970/71). The evidence for a tendency for project farmers to be more commercialized is consistent with the point made several times in this study that IADP loan capital is in the main reaching rural dwellers whose main orientation is towards trading and other urban-focussed activities (see chapters 4 and 6 especially).

Demographic Surveys by the project extension personnel of the villages located on IADP feeder roads estimated a total of 6,800 households. This implies 19 households per kilometre of Feeder road constructed. Two further assumptions will be made in relation to the analysis below. These are:

(i) that none of these families sold rice prior to the project providing access and that all of them would adopt IADP production technology;

(ii) a farm gate price for rice of $ 10-00 per bushel, ignoring interest on production resources.

Under these assumptions it will take up to 10 years before increased production would equal the cost of the road programme. Paying for the road programme out of a national 10% tax on increased rice production would take up to a century to cover its costs. The analysis pursued here is admittedly too restricted a view of the justification for a road building programme in a society where head porterage is the dominant mode of transportation. Rural access roads are essential for ensuring that a greater proportion of the population has access to central services such as schools and health care which tend to be localized in administrative centres (cf. Turay, 1973). Nonetheless there is some grounds for supposing that the feeder road programme is inadequate to the needs of agriculture in the project area.

Table 9: 6 The regional pattern of rice sales in Sierra Leone 1970/71

Province	Total Quantity of rice sold (in bushels)	Total No. of farmers that reported rice sale	Average quantity of rice sold per farmer (in bushels)
South	80,015.7	16,903	4.7
East	93,962.2	18,152	5.2
North	321,317.0	31,720	10.1
Bombali District*	32,462.1	4,762	6.9
Tonkolili District*	61,510.9	6,636	9.3

Source: Agricultural Statistical Survey of Sierra Leone, 1970/71.
Central Statistics Office. Compiled from various tables in the volume.

*Districts of the Northern province in which I.A.D.P. activities are currently being carried out.

In the foregoing paragraphs, an attempt was made to evaluate the road programme in terms of the data the project has collected. The framework within which data collection for regional planning purposes proceeds was analysed and the conclusion suggested that the data base lacked internal consistency. The evidence presented and the analyses adopted appear to suggest two fundamental conclusions:

(a) that decisions concerning the distribution of road and water resources in the study area are not based on a systematic definition of need for these inputs into the process of social change:

(b) that the existing pattern of infrastructure (including those allocated by the project planners) are unlikely to produce more than a limited impact on agricultural production in the project area.

One of the issues arising from the statistical analyses presented elsewhere in this chapter relates to the point that project resource allocation appear to result in significant anomalous patterns. The evidence suggests, for example, that the existing network of feeder roads (planned and actual) may result in an unnecessarily highly interconnected system within a limited zone of the project area (and hence a significant area remaining 'roadless'). It has been suggested already that in terms of spatial resource allocation there is more at stake than the stimulus - reward aspects of project management policy. Discussion during field work suggests that deep political considerations are operative when decisions about where roads go are taken. It was not possible to explore the nature of the political determinants behind the pattern depicted in fig. 9:2. However, the suggestion is that disproportionate resource allocation for some areas (such as the highly inter connected network of roads for Gbendembu Gowahun chiefdom as compared to Biriwa Limba chiefdom) reflect the relatively more inluential position of such areas. Thus in the absence of a valid analytical framework for assessing the developmental potential of feeder roads, planners would become subjected to considerable political pressure, viewed by local elites as essential in the reproduction of the existing relations of power in the community. It can be conceded that some of the rural access roads investment allocations were based on actual reward to enthusiastic participation in other IADP activities. The latter consideration appears to be significant in the case of the road and well allocations for Tane chiefdom. Elsewhere it is shown that response to project initiatives in Tane chiefdom has been among the best (see Fig:5:1)'
It is important to emphasise that the comments offered here in relation to 'the politics of resource allocation' in the study area are merely speculative. The deeper structural issues involved in Northern Sierra Leone may provide a basis for a more systematic enquiry in the future.

9:4 The regional pattern of response to IADP technology

Elsewhere in this study it was estimated that there were approximately 17,900 farm households in the area covered by IADP (see chapter 4). By the end of the 1979 farming season the project had 8,734 registered farmers. Thus the project had registered one person in each of c. 49% of farm households in the area. The geographical distribution of these registered farmers will be examined here.

Figs. 9:5 to 9:7 depict the pattern of distribution of IADP swamp rice, upland rice, and groundnut farmers, on a chiefdom basis, as a proportion of the estimated numbers of farm households. For the purpose of this analysis it was assumed that:

(a) the average family size is c.10 persons as suggested by data presented elsewhere (see section 4:2);
(b) 75% of all families are primarily engaged in farming in the case of the most highly urbanized chiefdoms i.e. Bombali Sebora and Kholifa:
(c) 90% of all families are engaged in agricultural production in the other predominantly rural chiefdoms of the project area. 1974 provisional census data were used.

Clear patterns of regional specialization of the crops promoted by IADP emerge from the three maps thus constructed (figs. 9:5 to 9:7). Swamp rice production appears most marked in the area South-east of Makeni. Paki Masabong and Tane chiefdoms show an especially favourable response to the swamp rice component (when compared to other chiefdoms). Land resource survey maps of the distribution of inland valley swamps in this area of Sierra Leone suggest a strong ecological basis for such regionalization of response. It is significant to note that initial project efforts were directed at swamps development (arising out of the conventioanl wisdom concerning agricultural development planning in Sierra Leone as discussed in chapter 4). Consequently, areas with extensive inland valley swamps became the primary targets of extension work. As discussed elsewhere, the South-eastern part of the project area tends to be relatively well placed in terms of labour supply for intensive swamp cultivation. It has been suggested that these areas tend to be characterized by farming communities that show significantly less participation in non-farm, Urban-based activities such as trading. Thus it is suggested here that the marked regional response shown in Fig 9:5 is partly a function of the availability of farm labour. In addition, material presented elsewhere show that access to swamp land constitutes an insignificant problem for Matotoka farmers. By contrast in Bumban and Gbendembu (both showing less intense response to project swamp technology) 47% of project farmers and 78% of non-project farmers report problems

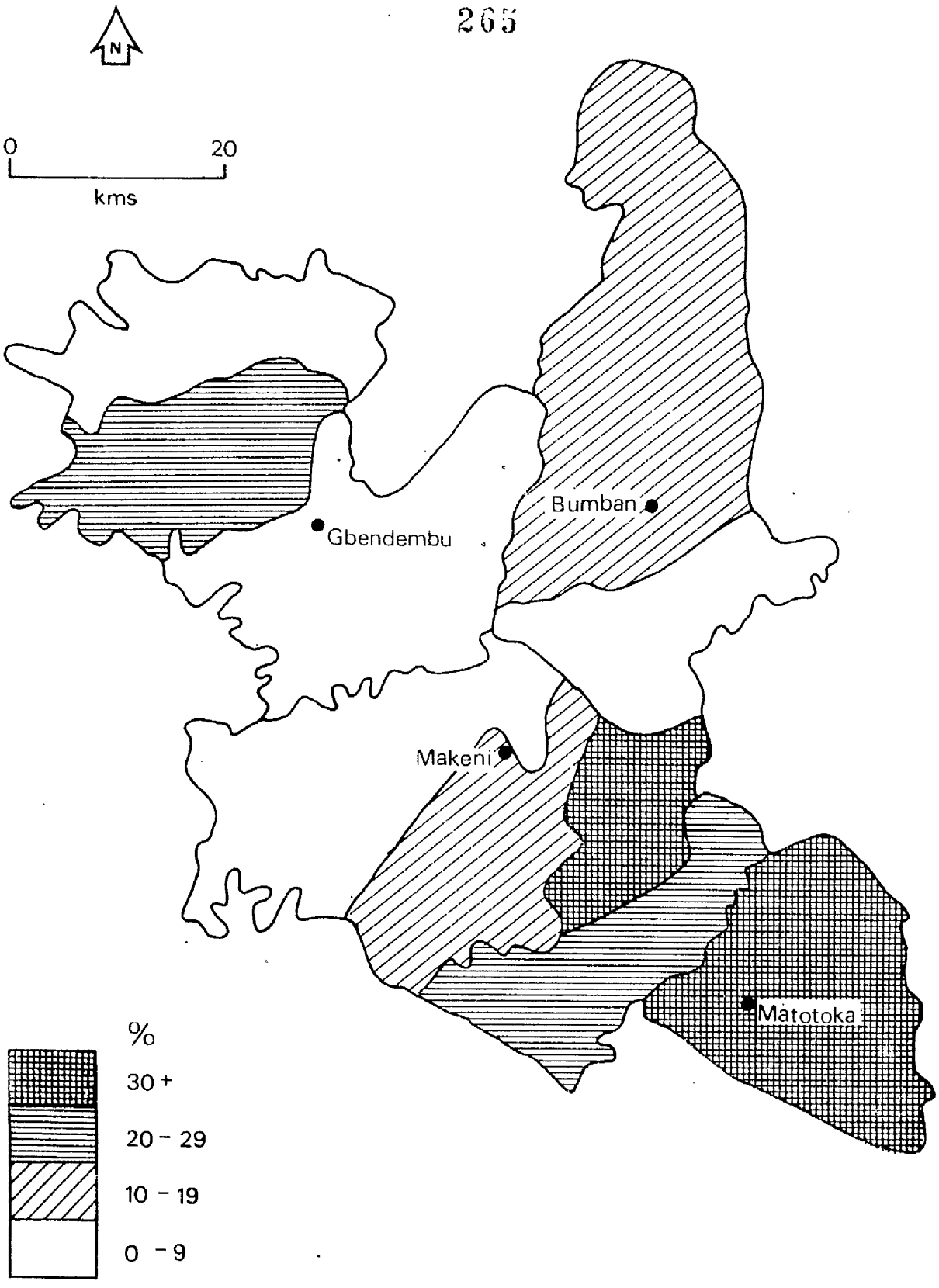

Fig 9:5 Project swamp farmers as a percentage of estimated total farmers (1979).

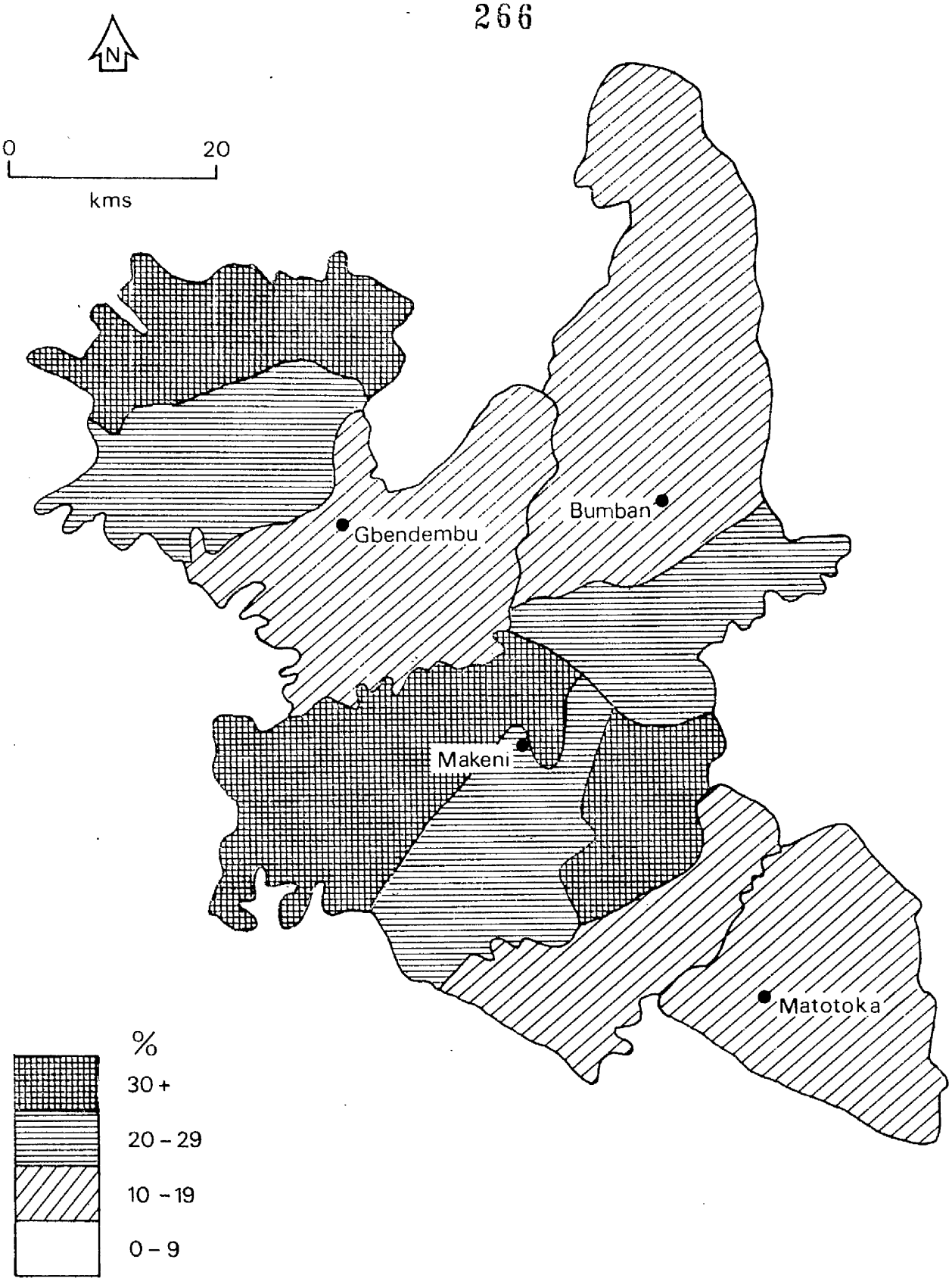

Fig 9:6 Project upland rice farmers as a percentage of estimated total farmers (1979).

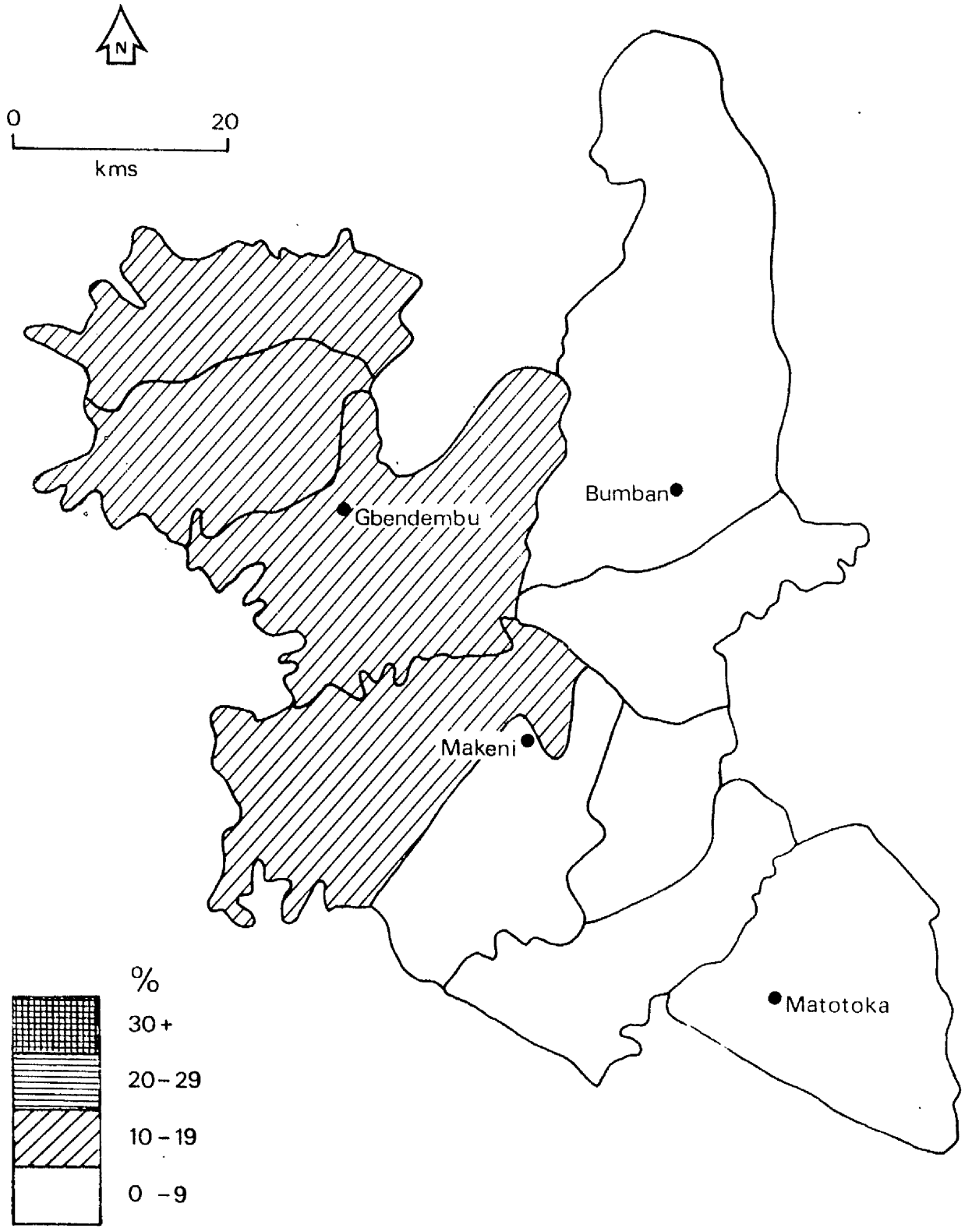

Fig 9:7 Project groundnut farmers as a percentage of estimated total farmers (1979).

in obtaining adequate amounts of swamp land, including 19% without any swampland at all.

By contrast to swamp rice cultivation innovations which show significant areas of limited response, upland rice production under IADP appears more widespread, reflecting the popularity of upland farming among farmers in Sierra Leone. Recalling chapter 4, it was suggested that shortage of suitable upland for rice cultivation was not a significant problem for the majority of farmers in the project area. Thus the widespread pattern of response to this component of IADP may reflect the general ease of access to upland by the majority of farming households. Response to groundnut production (see Fig 9:7) is most marked in the four contiguous chiefdoms to the north of Makeni, again reflecting suitable ecological factors. Groundnut cultivation in the North-west of the project area, especially in Sanda Tendaren and Gbanti Kamaranka chiefdoms, appears to have been based on considerable local initiatives aimed at satisfying domestic and commercial demands for groundnut (cf Turay, 1973).

Fig 9:8 attempts to summarize the geographical impact of the Project with a map of location coefficients. The coefficients compare the actual response of each chiefdom (in terms of all categories of farmers registered with IADP in the respective chiefdoms) to the expected response (based on each chiefdom's percentage share of the total project area population). The analysis shows that project response is well above regional average in both the extreme north-west and South-east of the region. The results suggest that registratration of male farmers is approaching saturation point in Gbanti Kamaranka, Sanda Tendaren, Paki Masabong and Tane chiefdoms. Significantly the major zone of negative response comprises the chiefdoms bordering the Mabole Valley i.e. Gbendembu Gowahun, Biriwa and to a lesser degree Safroko Limba. Recent historical analysis suggest that the latter response pattern may be connected to the Mabole Valley area's wealth from and involvement in pre-colonial inter-regional trade (cf Howard, 1979; Fyle, 1979, 1980) rather than a reflection of ecological impoverishment and the unreceptiveness of the local communities to agricultural innovation (cf Banton, 1957). One consequence of this historical process, it has been argued, is a desire to move capital and human resources out of agriculture into alternative lines of investment centred on urban areas, resulting in a lower than average response to project initiatives at agricultural innovation.

Spatial variation in project impact is further summarized in Table 9:7. Here a notional target figure is established for each chiefdom based on its proportion of total project area population. The results appear to suggest that even though extension efforts inevitably tend to be regionally concentrated and uneven initially there is evidence of movement in the direction of greater spatial evenness.

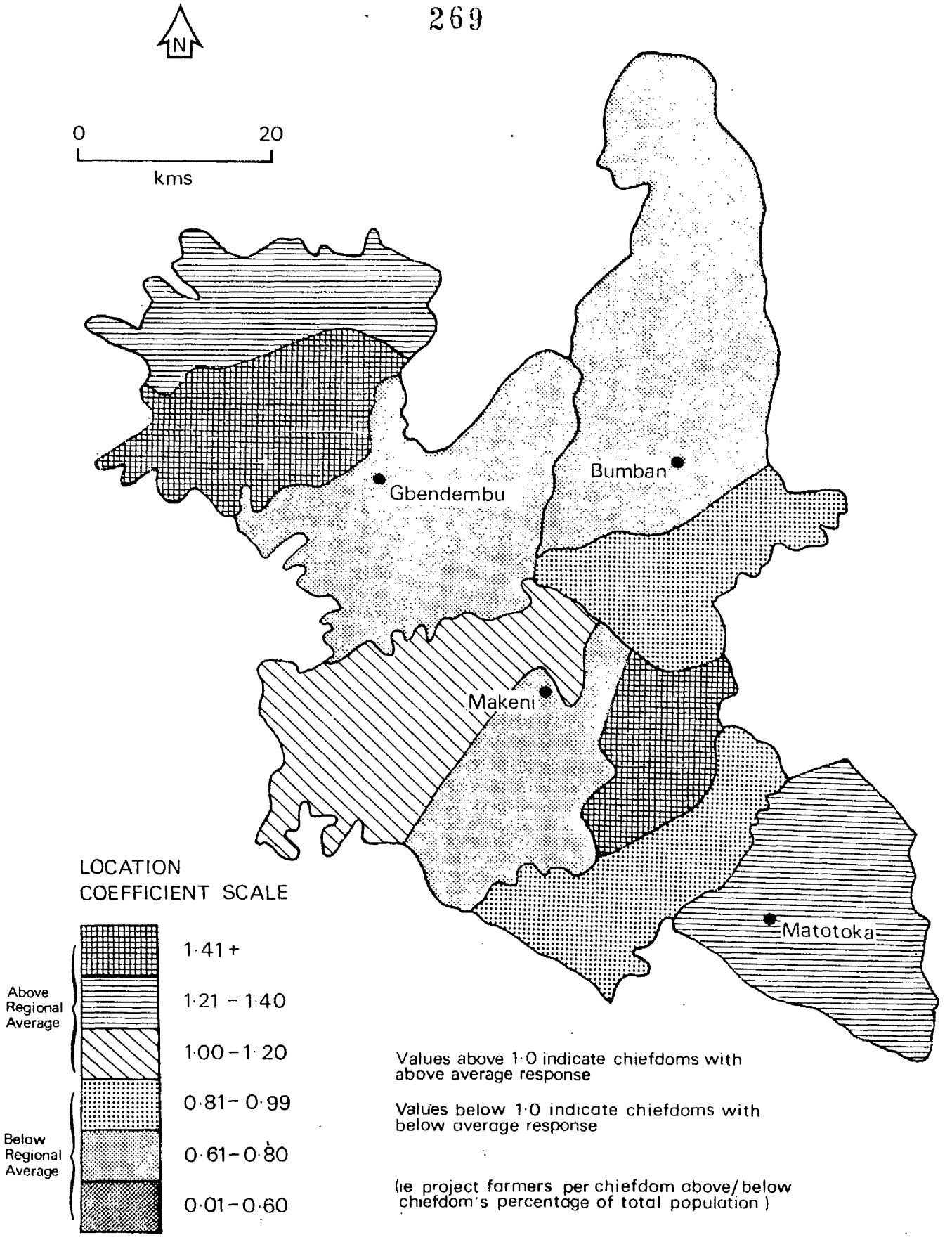

Fig 9:8 Regional impact of the Northern Area IADP.

Table 9:7 Regional impact of IADP - variations by chiefdom and progress between 1978 and 1979.

CHIEFDOM	Project farmers 1978	Project Farmers 1979	Target*
Tane	12.1%	8.9%	6.4%
Bombali Sebora	10.3%	11.6%	17.7%
Kholifa	12.0%	13.9%	14.6%
Paki Masabong	10.6%	9.2%	4.9%
Biriwa	12.1%	9.1%	11.9%
Safroko Limba	3.8%	5.6%	6.7%
Makari Gbanti	9.5%	12.7%	11.3%
Gbendembu Gowahun	10.2%	9.0%	11.3%
Sanda Tendaren	10.8%	10.7%	7.4%
Gbanti Kamaranka	8.7%	9.3%	7.3%

Source: Karimu & Richards, 1980:23

1978 sum of diviations from target = 32.6%
1979 sum of deviations from target = 26.1%

*Target defined in terms of proportion of project area population per chiefdom.

Comparison of figures for the distribution of project farmers (on chiefdom basis) in 1979 with similar sets of figures for 1978 shows that six out of the ten project area chiefdoms have experienced such movement. It is significant to note that in the case of Makari Gbanti and Gbanti Kamaranka growth from 1978 to 1979 resulted in over-reaching the notional target to some extent. Consistent with the pattern depicted in Fig 9:8 is the evidence that only Biriwa and Gbendembu Gowahun chiefdoms appear to be receding from the notional targets.

To sum up, this chapter has attempted a critical evaluation of the regional planning policies of IADP as well as a description of the geographical patterns of response to project initiatives. Two specific hypotheses relating to the developmental potential of project infrastructure as well as the framework for making regional allocation decisions were examined in the light of available evidence. A key conclusion emerging is that existing patterns of resource allocation are neither based on a systematically applied definition of need nor are they adequate to the needs of agriculture. In particular, existing resource allocation strategies would do little, if anything, to overcome isolation. Analysis of route alignment and network geometry shows that project allocation procedures are likely to produce an unnecessarily highly inter-connected network of resources for a small part of the region , with substantial areas remaining in isolation. It has been suggested that such patterns reflect the consequences of both the lack of a viable analytical framework for evaluating the potential utility of resources allocated in different areas as well as the related issue of political manupulation of planning decisions.

Analysis of the distribution of project farmers showed clear regional specializations emerging in relation to the swamp rice, upland rice and groundnut components of the project. The overall regional analysis shows the Mabole Valley area as a significant negative response zone. It has been suggested here and elsewhere that the patterns of response analysed reflect ecological as well as historical and contemporary socio-economic processes.

CHAPTER 10

CONCLUSION

Highlighting major findings, implications of data analyses and issues which require further research have been spelt out in each chapter of the thesis. Chapter summaries and the relationship of individual chapter conclusions to the structure of the arguments contained in this study have been attempted at appropriate stages in the text: Thus a long conclusion consisting of summarises of earlier findings and arguments concerning their relevance to rural development planning may only result in repeating parts of the text. Consequently, only brief comments are made here.

10:1 Major Findings

One of the assumptions that underlie the planning of IADP is that land imposes a more severe constraint to increasing agricultural production than farm labour supply. Consequently, a labour intensive, land-saving production package was designed for communities in the northern project area. Contrary to this assumption, the evidence of this thesis suggest the conclusion that in northern Sierra Leone labour for agricultural work is in short supply. Constraint on output increasing technology is more a function of labour shortage than land shortage. It has been argued that labour shortages are the result of heavy outmigration of the male working population from the study area into urban centres and the diversion of labour into non-agricultural employment (see Chapters 2 and 4). It has been argued that without an adequate supply of household labour, 'improved' swamps cultivation techniques along IADP lines would require the hiring of extra hands to overcome seasonal labour input bottlenecks.

The 'improved' swamp farming package shows variable results and the conclusion drawn from available evidence is that this is partly a refection of spatial variations in labour supply problems in the study area. Thus of the three study villages, Matotoka was shown to be more responsive to the swamp rice component as well as being the best placed in farms of the availability of agricultural workers in all three settlements.

Labour 'companies' or work groups were shown to be a vital feature of the agricultural production process in the study area. Between 1/3 and 2/3 of total farm labour input was reported to have come from 'Company' sources. Contrary to assumptions in the literature concerning the inherent 'egalitarian' character of work groups, material presented and the analysis adopted suggests that significant assymetrical relations of production emerge within work groups. The argument elaborated is that 'Co-operative' rhetoric disguises issues of unequal labour relations within the 'Company' process.

A further conclusion concerning 'Company' formation is that it acts to stratify the rural social formation. The analysis followed in chapter 4 suggests three classes of peasants in the villages surveyed: 'poor', 'middle' and 'wealthy! These groups differ from one another ideologically, in their ability to negotiate labour at critical times of the farming calendar as well as in their degree of involvement in off-farm activities. Because of these distinctions different farming systems tend to reinforce the respective group interests of the three categories of farmers noted above. Thus in terms of farming systems operated and type of labour 'negotiated,' the critical distinction relates less to that between project and non-project farmers and more to relevant social classes.

The nature of the rural credit process was examined in some detail in chapter 5. The evidence suggests that relations of production in the study area have been significantly shaped by merchan capital over a long period. Discussion with farmers suggest that debt relations carry much socio-political as well as economic significance, and IADP credit tends to be treated as part of rather than as an alternative to local credit networks. In terms of loan repayment, the credit component of IADP appears to be ineffective. The project's own explanation of high rates of default is based on the notion that farmers lack an adequate understanding of credit obligations. Contrary to this, material presented in chapter 5 shows that both project and non-project farmers do not perceive IADP as a government 'handout' but a commercial enterprise with a degree of profit maximization orientation. The alternative explanation developed in this thesis is that poor rates of loan re-payment are a consequence of:

(i) the extent to which many farmers are already trapped in village usury prior to contracting project credit. Local indebtedness rates were reported to be high, with typical figures ranging between Le 50.00 and Le 150.00 per farmer. There is evidence of considerable awareness of cases of further borrowing from local money lenders to repay IADP loans.

(ii) Miscalculations concerning the profitability of project innovations. It was argued that inadequate attention was paid to social as opposed to economic aspects of labour supply. Consequently, project planners appear to have substantially underestimated the true cost of labour required by the new technology. Labour cost calculations were based on capitalist conceptions of labour as a commodity costable in man hour units. As argued in chapter 5 this is inappropriate in a society where relations of production are not unambiguously capitalist. Because of this reason farmers' repayment capacities are adversely affected.

Project farmers are recruited on the basis of their social standing in the community. The effect of this policy is to increasingly direct project credit to farmers who are committed to a process of transition from agriculture to non-agricultural activities such as trading or transport operation. Evidence presented in chapter 6 suggests that project and non-project farmers differ significantly in terms of (a) degree ofsinvolvement in off-farm activities; (b) capital requiremnets as well as profit potential of their off-farm occupations. There is evidence that project credit may be used in facilitating this transition and as a result exacerbate the flow of resources from agriculture to non-agricultural activities. In terms of current and anticipated petterns of investment, project farmers are less enthusiastic about reinvesting human and material resources in farming than non project farmers (see chapter 6).

Analysis of farmers risk attitudes shows that peasant producers place reduced risk before increased outpur. It is likely that higher average returns to project innovations are offset by greater variability of results from farm to farm and year to year.

IADP appears to be steadily improving local output of rice and groundnuts. Substantial amounts of rice more from farm to urban centres as remittances to urban migrants. If the figures in this study are broadly typical of Sierra Leone then it can be expected that as much as c. 20,000 - 30,0000 tonne s of rice m ay be supplied to town dwellers through this process. The remittance process, it is suggested, should be understood as part of a mechanism for achieving the transtion from farming into urban-based activities (see chapter 4).

Women farmers are a vital feature of the local agricultural system. Men and women sample farmers agreed that the latter have specialist knowledge in groundnut cultivation. Although individual farms m ay be small and output low, women's farms are more numerous than men's. Women farmers direct a similar proportion of their output to the market place as do men farmers. Further, women farmers raise and invest cash in farming to a degree that undermines the validity of generalizations that women are mere producers of subsistence crops in Tropical Africa.

Access to land and labour appears to be more difficult for women farmers than their male counterparts. These coustraints help shape the emphasis in female farming in the study villages i.e. smaller plots with greater orientation towards swamp cultivation (see chapters 4 and 8 for elaboration of the reasons behind this 'choice'). The major finding relates to the point that women are enthusiastic farmers who are desirous to remain in farming as a source of cash for meeting their personal needs as well as demands relating to the education of their children.

The distribution of project farmers shows that a reasonably even response has been generated from all ten chiefdoms within the project area. This is partly the result of competent exten sion work and partly the result of willingness on the part of farmers to adopt innovations. Spatial allocation of project infrastructure - village wells and feeder roads - on the other hand - has produced anomalous patterns. In particular there is no significant relationship between the distribution of infrastructure on the one hand and the various measures of need as constructed in chapter 9. Consequently, there are some inadequacies in the emerging pattern of infrastructure. Project regional allocation decisions would appear to exacerbate the problems of existing isolated communities.

10:2 Future research orientations

The research and writing up of this thesis has emphasised the complexity of project impact analysis as a tool of critical feedback in the development planning process. Most of the issues have been dealt with only sketchily Most of the topics which provide themes for the various chapters might easily have been major topics of enquiry on their own. This, however, reflects the interrelatedness of processes affecting agrarian change and rural development. Constraints

of time and space meant a lot more data was cut out which could have been added to the existing chapter layout.

One area which requires immediate follow-up study is an attempt to locate the labour process operative at the village level within historical and regional frameworks. A major effort of fututure research will be directed at the analysis of patterns and sources of inequality characteristic of agricultural labour cooperation. Since labour is a critical scarce resource in the agricultural environment, it is suggested that a better understanding of the labour process and the associated relations of production is a pre-requisite for effective planning of agrarian change.

Another area that requires follow - up survey relates to the issue of remittances and in particular the potential for remittances to remove technical constraints on local agriculture. There is need for a systematic collection of material on the volume, timing and character of flow of resources from rural to urban as well as urban to rural areas.

Material on the constraints facing women farmers is scanty and patchy. Future research may focus on such issues as intra-household processes of exploitation, the marginalization of women farmers via development planning approaches that ignore the special needs and potentials of women farmers.

Constraints of time during fieldwork prevented enquiry into the variability factors associated with project inputs such as fertilizers, improved seeds and water control technology. Further, the variability of labour input characteristic of different farming techniques would provide a facus for an immediate research project.

Further enquiry is also needed for a more adequate identification of social groups that are likely to emerge under IADP - type planning. This may lead on to the development of technologies that are geared towards the resolution of constraints that tend to be specific to social groups.

10:3 Implications of Conclusions for future rural development planning in Sierra Leone.

The following brief notes are intended to serve as a supplement rather than alternative to existing planning approaches. Some of the major implications are:

(i) The findings and analyses emphasise the need for a critical evaluation of the processes that have shaped relations of production in the region of interest prior to the implementation of a rural change programme such as IADP. Thus there is an urgent need for setting up a monitoring and evaluation team to undertake pre-project analysis as well as carry out 'in-house' evaluation of the results of implementation.

(ii) A major implication of the findings presented in this study is the need to rethink the criteria for recruiting farmers into IADP type projects, It has been argued elsewhere that the existing policy appears to introduce a systamatic bias against the interests of the 'bottom 40%' of the rural poor. For this target group to be reached and involved there is a clear need for a critical re-assessment of the role of local elites in carrying out project policy. A more direct dialogue with poor farmers by project extension staff is likely to produce more positive results.

(iii) Project spatial resource allocation decisions were subject to critical scouting within a spatial analytic framework. The results imply the need for developing a rigorous analytical framework to assist project management reach 'objective' decisions concerning the distribution of resources. The analysis presented suggests that such a framework can be and effective mechanism for countering 'the politics of resource distribution' (eventhough in the ultimate decisions arrived at are inherently political rather than exclusively technical).

In terms of the Feeder Road programme of IADP the evidence suggests the need for designing a special sub-programme for reaching isolated settlements. This may be achieved either through a reduction of costs and hence more roads or via a deliberate redirection of resources for 'priority' areas.

(iv) Data presented in chapter 8 show that women are commercial as well as subsistence producers. However, discussion with project staff showed little awareness of the character

of female farming in the communities affected by IADP activities. One implication of these results is the need for rethinking the 'technical' design of the project so that the special needs and potentials of women farmers can be incorporated into the normal project activity.

(vi) Perhaps the most important implication of the present study is the confirmation of the view that peasant farmers possess considerable 'ethno-scientific' knowledge which provides a valuable aid to understanding the process of agrarian change. The systematization of this vast body of knowledge about peasant farming systems requires the deliberate incorporation of farmers into the planning and implementation process. In my view the future of agriculture in Sierra Leone lies in generating mass participation in the overall design and execution of agricultural change programmes.

In short the pricipal objective of this study has been a demonstration of the way in which case study material can be used to highlight the kinds of analyses and issues that are relevant for an understanding of the processes that characterise agrarian change in Sierra Leone, and the way that it is possible to direct these processes in more useful and productive ways.

Appendix 1 PROPOSED FEEDER ROADS FOR 1978 - 81 NORTHERN AREA PROJECT

Sl.No.	Road From - To	Chiefdom	Lenght in Miles	Maps & Coordinates	Comments	Justification
N 1	Matotka-Mabis-Mapaki-Masint-Mabobo-Makent-Sengbe-Mangi	Tane Gbonkolenken	9.6	Sheet 55, 50/60 by 75/86		Village-9, Houses-304, Population-3774, Swamp-1864 acres, upland-3703 acres, groundnut-325 acres. High agricultural development potential.
N 2	Mapaki-Makeni-Matinke Masaful-Makona-Mafari	Tane	8.25	55 50/55 by 83/89		Village-6, Houses-122, Population-1193, Swamp-593 acres upland-150 acres, groundnut-125 acres. High agricultural development potentiol.
N 3	Tene-Manuko–Makne Konta-Masuba-Fotani	Bombali Sebora	7.25	44,55 65/73 by 64/68	Already approved Tane-Manuko (4mls) extended up to Fotani	Village-6, Houses-319, Population-3020, Swamp-60 acres upland-150 acres, groundnut-90 acres. High agricultural development potential.
N 4	Myan junction (Abu Road) Myan-Mamara	Tane	4.0	55 80/83/by 58/60		Village-3, Houses-29, Population-294, Swamp-265 acres upland-110 acres, groundnut-84 acres. High agricltural development potential.
N 5	Mapaki-Yima-Makanbri Mabai-Mawria-Mankore-Binkolo	Paki-Masabong Safroko Limba	14.0	44 73/91 by 80/88	Already Approved.	
N 6	Binkolo-Kotela-Bunka Matinka-Bombalibana-Panlap	Safroko Limba Makari Gbanti	10.0	43,44 81/94 by 87/94	Already Approved.	
N 7	Matotoka-Polo-Mabamp-Mafuri-Malako-Matunkara-Mafori-Mabai-Makufri-Mabene-Makkele		14.0	44,55,56 86/98 by 58/70		Village-11, Houses-295, Population-3890, Swamp-1828 acres upland-4240 acres, groundnut-180 acres,. Very high agricultural development potential.
N 8	Matura-Lumgba-Madibi-Masint Mamila-Mayata-Mayemberi	Kholifa	7.75	55 80/86 by 53/67		Village-7, Houses-109, Population-1260, Swamp-3705 acres upland-2230 acres, groundnut-650 acres. Very high agricultural development potential.
N9	Abu Road-Mabai-Masabong-Masati-Madina-Masabanagpil	Paki Masabong	4.5	54,55 63/68 by 70/74		Village-5, Houses-181, Population-1752, Swamp-100 acres upland-300 acres, groundnut-180 acres. Very high agricultural development potential.
N 10	Mapaki-juction (Abu Road) — Konto-Rosanda-Buma-Masongbo	Paki Masabong	4.5	44 70/75 by 73/76		Village-4, Houses-227, Population-2175, Swamp-90 acres upland-180 acres, groundnut-95 acres,. high agricultural development potential.
N 11	Mabai-Tanta-Katribana-Takoye	Paki Masabong	4.0	44 82/86 by 75/81		Village-4, Houses-119 Population3325 Swamp-60 acres upland-150 acres, groundnut-95acres:. High agricultrual development potential.
N 13	Mayagba (Abu Road) Airfield-Makuna-Makeni-Mayende(second one to South) Makeni-Makinta-Makankoi	Paki Masabong Bombali Sebora	9.0	44,54,55 62/69 by 64/74	Already approved but extended	Village-4, Houses-86, Population-840, Swamp-80 acres upland-350 acres, groundnut-200 acres. Very high agricultural development potential.
N 14	Main road- Mabunt-Rolunk-Waribana	Bombali Sebora	5.0	43,54 14/21 by 68/70		Village-4, Houses-124, Population-1230, Swamp-120 acres upland-150 acres, groundnut-100 acres. High agricultural development potential.
N 15	Makama-Mankane-Mabure-Mabisor-Mafenka-Rogbere-Mabidungung	Bombali Sebora	4.75	43 74/81 by 20/24		Village-7, Houses-145, Population-1480, Swamp-120 acres upland-250 acres, groundnut-150 acres. High agricultrual development potential.
N 12	Mapaki-Mankane-Mabure-Mabisor-Makota-Manria Sebana-Mayanlaw-Mabala	Paki Masabong	5.0	44,55 66/73 by 75/80	Already approved	

Apendix 1 Continued

SL.No.	Road From - To	Chiefdom	Length in Miles	Maps & coordinates	Comments	Justification
N16	Main road-Mabanta-Masimera-maforake manke-Matumbu-Maranka-Mamara-Rokon	Bombali Sebora Makari Gbanti	8.5	43 84/91 by 17/24		Village-9, houses-210, population-2117, swamp-80 acres upland-250 acres, groundnut- 150 acres. High agricultural development potential.
N17	Masungbo-Masapri-Lain-Mankene-Yenkin-Makeh	Makari Gbanti	5.5	43 82/75 by 15/18		Village-6, houses-339, population-2925, swamp-85 acres upland-200 acres, groundnut-100 acres. High Agricultural development potential.
N18	Masungbo-Makendaw-Magbingbi-Matekrei-Matoke-Magbonde-Makerifi-Pundu ng-Mukundu	Makari Gbanti	7.2	43 82/90 by 13/18		Village-8, houses-447, population-4895, swamp-70 acres upland-280 acres, groundnut-200 acres. Very high agricultural development potential.
N19	Binkolo-Mafari-Kamanka-Masama-Madu-Masunbum-Mapari-Bare-Mankaw-Yasi-Kadala=Gbankaki-Masapi	Safroko Limba	16.5	32,44 91/03 by 73/95		Village-13, houses 383, population-4650, swamp-600 acres upland-800 acres, groundnut-400 acres: The road is partly motorable. Agricultural development potential is very high.
N20	Kamanka-Bumba-Kabonka-Kambaya-Kitori-Kasengbo	Safroko Limba	9.0	32,44 92/04 by 75/84		Village-6, houses-191, population-1917, swamp-300 acres upland-500 acres, groundnut-200 acres. High agricultural development potential.
N21	Katankina-Konobo-Makane-Mafuita-Masoli	Safroko Limba	6.5	31,32 96/00 by 25/74		Village-5, houses-118, population-940, swamp-37 acres upland-34 acres, groundnut-13 acres. High agricultural development potential.
N22	Kamabai-Mafure-Manlokoko-Mabunke- Mafunko-Kamaron-Bunbande-Makedi-Madantili-Kamakita-Kayele	Biriwa	12.0	31,32 2/10 by 26/74		Village-11, houses-279, population-2500, swamp-200 acres upland-300 acres, groundnut-200 acres. High agricultural development potential.
N23	Main road-Bonaia-Karina-Wari-Manyaga-Mayobi-Manyoro-main road	Biriwa	13.5	20,31,32 16/26 by		Village-10, houses-394, population-2503, swamp-68 acres upland-103 acres, groundnut-144 acres. High agricultural development potential.
N24	Kanike-Manani-Makaimaia-Kabake	Biriwa	4.5	20 26/30 by 85/88		Village-5, houses-161, population-1010, swamp-78 acres upland-92 acres, groundnut-21 acres. High agricultural development potential.
N25	Main road south Kabara-Kakia-Kamatugu-Kakayu	Biriwa	8.25	20 32/46 by 86/87		Village-8, houses-243, population-695, swamp-28 acres upland-9 acres, groundnut-9 acres. Very high agricultural development potential.
N26	Main road-Mamasiki-Maleni-Karakana – Kagbangono	Biriwa	8.25	20 31/43 by 80/81		Village-5, houses-179, population-935, swamp-4 acres upland-13 acres, groundnut-13 acres, very high agricultural developement potential.
N27	Kalangba-Sagoroma-Nguhun-Suinya-Mangua-Makita-Mahumbu-Madina	Gbendembu Gowahun	10.0	31 00/07 by 2/25		Village-8, houses-93, population-800, swamp-none, upland-35 acres, groundnut-30 acres. High agricultural development potential.
N28	Tambianu-Makeribohun-Makawgo-Kaiango-N27	Gbendembu Gowahun	5.0	31 96/02 by 18/19		Village-4, houses-68, population-545, swamp-6 acres, upland-40 acres, groundnut-10 acres. High agricultural development potential.
N28A	Mango-Matogo-Makeum-Ngingilu-Maberi-Makump-Mafure-Makite	Gbendembu Gowahun	10.0	31 20/21 by 93/100		Village-8, houses-120, population-450, swamp-nil, upland-nil, groundnut-nil. High agricultural potential.
N29	Manfage-Masungbo-Matintinga-Kagberi-Mabana	Gbendembu Gowahun	5.75	31,43 92/97 by 9/12		Village-5, houses-61, population-420, swamp-9 acres, upland-20 acres, groundnut-9 acres. High agricultural potential.

Apendix 1 Continued

SL.No.	Road From - To	Chiefdom	Lenght in Miles	Maps & Goordinates	Comments	Justification
N 30	Kalangba-Gberi-Tanehun-Mabana-Mabombo-Mangowka	Gbendembu Gowahun	7.5	31,42,43 92/00 by 2/12		Village-6, Houses-56, Population-500, Swamp-100 acres upland-nil, groundnut-nil, High agriculture potential
N 31	Makambi-Matogo-Maketi-Mameka-Mamuli-Mafe-Masuri-Mabule	Gbendembu Gowahun	10.00	30,31 00/11 by 95/00		Village-8, Houses-93, Population-1200, Swamp-20 acres upland-60 acres, groundnut-nil. High aricultural development potential.
N 32	Pendembu-Makwi-Magbana-Lohindi-Kotohun-Makako-Mawanwa-Mayake-Mabala-Mahole-river	Gbendembu Gowahun	16.0	31 07/27 by 08/15	M.O.W. ROAD	
N 33	Lahindi-Mange-Bangahun-Momaia-Mahambola	Gbendembu Gowahun	3.25	31 10/14 by 14/17		Village-5, Houses-41, Population-104, Swamp-nil upland-nil, groundnut-nil. Agricultural potential high.
N 34	Kalangba-Bumba-Makeka-Maharigo	Gbendembu Gowahun	8.0	31 00/10/ by 12/14		Village-4, Houses-200, Population-930, Swamp-22 acres upland-30 acres, groungnut-15 acres, High agricultural potential.
N 35.	Mahanwa-Guhan-Managbe-Massingbe-Maduri	Gbendembu Gowahun	4.75	31 11/17 by 20		Village-5, Houese-50, Population-150, Swamp-nil upland-nil, groundnut-nil. High agricultural potential.
N 36	Pendembu-PortLoko road at Matiti-Bom-Gbene-Sindugu-Maaipe	Sanda Tendaran	5.5	30,31 00/03 by 10/16		Village-5, Houses-90, Population-740, Swamp-15 acres upland-10 acres, groungnut-nil, Very high agricultural potential (cattle problem).
N 37	Kamakwie road at Ribia Gbin-Masungbu- Sana-Mabala	Sanda Tendaran	3.1	31 17/20 by 04/07		Village-4, Houses-120, Population-1190, Swamp-25 acres upland-25 acres, groundnut-30 acres. High agricultural potential.
N 38	Kamakwie road at Masaktaba-Kalangba-Makuri-Gban ii-Kuntai-Makumre-Mawanti-Roghanti-Makalikiri-Makonya-Makarankí-Marata-Kanipe	Sanda Tendaran Gbanti Kamaranka	13.25	30,31 22/23 by 86/07	M.O.W ROAD	Village-13, Houses- 264, Population-4447, Swamp-100 acres upland-66 acres, groundnut-50 acres. Very high agricultural ptoential.
N 39	Mamkumre-Mafuri-Gbane-Manp-Aib0-Kalogbo-Marampa	Sanda Tendaran	7.0	30 16/23 by 91/98		Village-10, Houses-100, Population-1000, Swamp-45 acres upland-66 acres, groundnut-50 acres. Very high agricultural potential.
N 40	Kamakwie road at Kamaranka-Mawula-Petifu-Matefu-Makilon-Kambia- Mahera	Gbanti Kamaranka	7.5	18,19 25/34 by 97/07		Village-9, Houses-370, Population-2130, Swamp-58 upland-33acres, groundnut-111 acres, Very high agricultural potential.
N 41	Kamakwie road at Makaiba-Gbalan-Mayamba-Yema	Sanda Tendaran Gbanti Kamaramka	3.75	19,31 23/25 by 07/12		Village-6, Houses-95, Population- 1394, Swamp-23 acres upland-24 acres, groundnut-20 acres. High agricultural potential.
N 42	Mathan-Rogbesse-Masokoni-Marake-Kalmare	Kholifa	10.0	44 83/95 by 70/74		Village-5, Houses-150, Population-698, Swamps-600 acres upland-2360 acres, groundnut-960 acres, High agricultural development potential.
N 43	Kunso-Magbankane-Barbana-Bantamu	Makari Gbanii	3.75	43 22/25 by 90/94		Village-4, Houses-100, Population-910, Swamp-47 acres upland-49 acres, groundnut-18 acres, High agricultral potential.

APPENDIX 2

Population by sex and 5-year age groups for Tane Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSITION	
		MALE	FEMALE
All ages	13,705	6,517	7,188
Under 5	2,337	1,152	1,185
5 - 9	2,488	1,277	1,211
10 - 14	1,293	706	587
15 -19	1,131	551	580
20 - 24	688	297	391
25 - 29	914	361	553
30 - 34	863	369	494
35 - 39	809	329	480
40 - 44	671	288	383
45 - 49	567	221	346
50 - 54	435	209	226
55- 59	304	164	140
60 - 64	346	160	186
65 - 69	228	100	128
70 - 74	199	103	96
75 - 79	140	77	63
80 - 84	113	55	58
85+	171	91	80
Not stated	———	———	———

APPENDIX 2 Continued

Population by sex and 5-year age groups for Paki Masabong Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSITION	
		MALE	FEMALE
All ages	10,531	5,025	5,506
Under 5	2,128	1,135	993
5 - 9	1,961	1,062	899
10 - 14	957	571	386
15 - 19	740	301	439
20 - 24	556	191	365
25 - 29	717	269	448
30 - 34	599	228	371
35 - 39	510	207	303
40 - 44	387	184	203
45 - 49	323	144	179
50 - 54	332	142	190
55 - 59	209	85	124
60 - 64	332	151	181
65 - 69	198	100	98
70 - 74	170	81	89
75 - 79	126	54	72
80 - 84	112	42	70
85 +	163	75	88
Not stated	11	3	8

APPENDIX 2 Continued

Population by sex and 5-year age groups for Kholifa Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPSITION	
		MALE	FEMALE
All ages	31,456	15,037	16,419
Under 5	5,583	2,749	2,834
5 - 9	5,586	2,770	2,816
10 - 14	3,592	1,901	1,691
15 - 19	2,850	1,327	1,523
20 - 24	1,984	861	1,123
25 - 29	2,318	914	1,404
30 - 34	1,975	870	1,105
35 - 39	1,821	818	1,003
40 - 44	1,213	604	609
45 - 49	1,112	574	538
50 - 54	812	392	420
55 - 59	530	262	268
60 - 64	637	304	333
65 - 69	408	198	210
70 - 74	341	167	174
75 - 79	183	90	93
80 - 84	195	86	109
85+	249	124	125
Not stated	67	26	41

APPENDIX 2 Continued

Population by sex and 5-year age groups for Bombali Sebora Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSITION	
		MALE	FEMALE
All ages	37,943	18,202	19,741
Under 5	7,023	3,386	3,637
5 - 9	6,601	3,220	3,381
10 - 14	4,166	2,102	2,064
15 - 19	3,607	1,665	1,942
20 - 24	3,018	1,292	1,726
25 - 29	3,265	1,520	1,745
30 - 34	2,418	1,044	1,374
35 - 39	2,060	960	1,100
40 - 44	1,380	721	659
45 - 49	1,216	678	538
50 - 54	843	420	423
55 - 59	547	297	250
60 - 64	644	314	330
65 - 69	299	153	146
70 - 74	250	135	115
75 - 79	185	91	94
80 - 84	131	68	63
85+	189	86	103
Not stated	101	50	51

APPENDIX 2 Continued

Population by sex and 5-year age groups for Safroko Limba Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSITION	
		MALE	FEMALE
All ages	14,451	6,473	7,978
Under 5	2,388	1,189	1,199
5 - 9	2,766	1,491	1,275
10 - 14	1,801	916	885
15 - 19	877	417	460
20 - 24	764	277	487
25 - 29	1,034	304	730
30 - 34	823	207	616
35 - 39	746	254	492
40 - 44	569	220	349
45 - 49	550	261	289
50 - 54	443	204	239
55 - 59	303	144	159
60 - 64	346	144	202
65 - 69	258	124	134
70 - 74	216	103	113
75 - 79	202	93	109
80 - 84	145	53	92
85+	208	64	144
Not stated	12	8	4

APPENDIX 2 Continued

Population by sex and 5-year age groups for Biriwa Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSITION	
		MALE	FEMALE
All ages	25,593	11,812	13,781
Under 5	4,314	2,173	2,141
5 - 9	5,198	2,686	2,512
10 - 14	2,906	1,528	1,378
15 - 19	1,913	797	1,116
20 - 24	1,765	574	1,191
25 - 29	1,566	505	1,061
30 - 34	1,481	500	981
35 - 39	1,112	456	656
40 - 44	1,071	421	650
45 - 49	939	462	477
50 - 54	690	313	377
55 - 59	504	250	254
60 - 64	669	355	314
65 - 69	461	244	217
70 - 74	394	219	175
75 - 79	204	126	78
80 - 84	171	90	81
85+	161	87	74
Not stated	74	26	48

APPENDIX 2 Continued

Population by sex and 5-year age groups for Makari Gbanti Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSTION	
		MALE	FEMALE
All ages	25,229	12,039	13,190
Under 5	4,797	2,406	2,391
5 - 9	4,350	2,281	2,069
20 - 14	2,441	1,371	1,070
15 - 19	2,090	951	1,139
20,- 24	1,724	675	1,049
25 - 29	1,916	735	1,181
30 - 34	1,641	634	1,007
35 - 39	1,422	624	798
40 - 44	1,178	558	620
45 - 49	861	448	413
50 - 54	686	321	365
55 - 59	491	238	253
60 - 64	588	266	322
65 - 69	323	160	163
70 - 74	279	163	116
75 - 79	142	60	82
80 - 84	136	63	73
85+	141	75	66
Not stated	23	10	13

APPENDIX 2 Continued

Population by sex and 5-year age groups for Gbendembu Gowahun Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSITION	
		MALE	FEMALE
All ages	24,346	11,050	13,296
Under 5	4,757	2,304	2,453
5 - 9	4,270	2,256	2,014
10 - 14	2,118	1,151	967
15 - 19	1,610	690	920
20 - 24	1,584	525	1,059
25 - 29	1,812	580	1,232
30 - 34	1,514	482	1,032
35 - 39	1,180	421	759
40 - 44	985	387	598
45 - 49	885	380	505
50 - 54	848	412	436
55 - 59	523	259	264
60 - 64	659	333	326
65 - 69	384	209	175
70 - 74	424	241	183
75 - 79	226	126	100
80 - 84	208	114	94
85+	248	134	114
Not stated	111	46	65

APPENDIX 2 Continued

Population by sex and 5-year age groups for Sanda Tenraren Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPSITION	
		MALE	FEMALE
All ages	15,905	7,522	8,383
Under 5	3,004	1,506	1,498
5 - 9	3,038	1,610	1,428
10 - 14	1,763	990	773
15 - 19	1,139	534	605
20 - 24	895	290	605
25 - 29	1,003	348	655
30 - 34	859	343	516
35 - 39	740	285	455
40 - 44	627	271	356
45 - 49	534	248	286
50 - 54	517	228	289
55 - 59	292	156	136
60 - 64	456	217	239
65 - 69	255	109	146
70 - 74	227	114	113
75 - 79	136	71	65
80 - 84	161	71	90
85+	247	126	121
Not stated	12	5	7

APPENDIX 2 Continued

Population by sex and 5-year age groups for Gbanti Kamaranka Chiefdom (1974)

AGE GROUP	TOTAL POPULATION	SEX COMPOSTION	
		MALE	FEMALE
All ages	15,774	7,343	8,431
Under 5	3,087	1,549	1,538
5 - 9	2,929	1,560	1,369
10 - 14	1,603	884	719
15 - 19	1,109	508	601
20 - 24	842	301	541
25 - 29	1,073	304	769
30 - 34	916	322	594
35 - 39	794	294	503
40 - 44	665	303	362
45 - 49	624	286	338
50 - 54	489	242	247
55 - 59	373	177	196
60 - 64	376	167	209
65 - 69	238	112	126
70 - 74	227	115	112
75 - 79	138	82	56
80 - 84	129	61	68
85+	145	67	78
Not stated	14	9	5

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APPENDIX 3

FORM 1

Questionnaire on the Socio-Economic Characteristics of IADP Farmers

1 a Village _____

1 b Chiefdom _____

1 c Household Reference Number _____

2 Name of respondent _____

3 Sex of respondent :

M		F	

Tick as a propriate

CODING FORMAT. CARD 1

Code Box	Column	Codes
		Village Codes
	3 - 4	01 - 20
		Chiefdom Codes
	5 - 6	01 - 10
	7 - 8	Raw Sample Nos.
	9	Sex Codes
		Male - 1
		Female - 2

CARD 1

Code Box	Column	Codes
	10	Age Codes

*3a Age of respondent (See Manual)

Young	
Middle Age	
Old	

Tick appropriate Box

* Young - 1
Middle Aged - 2
Old - 3

3b Enumerator's estimate of farmer's age (State in years) _____

11

Age class codes.

> 30 years - 1
30-50 years - 2
< 50 years - 3

4 Have you had any schooling ? Yes [ ] No [ ] Tick

12

Yes - 1
No - 0

5 If YES, then complete the table below by asking for the type of School/Institution attended and for how long.

CARD 1

Type of School/Institution	Tick	Duration of Course
Primary School		
Secondary School		
Teacher Training College		
Agricultural Training Centre		
Vocational Training School		
Adult Literacy Programme		
Arabic Training Programme		
Other (Specify up to 3)		
_____		_____
_____		_____
_____		_____

Institution Codes

Primary	01	
Secondary	02	
Teacher Training	03	
Agric. Training	04	
Voc: School	05	
Adult Lit.	06	
Arabic	07	

Duration Codes

1 mth	- 1
2- 3 mths	- 2
3 - 6 mths	- 3
6 - 12 "	- 4
1 year -	- 5
2 years -	6
2-5	- 7
5 yrs & over	-8

* 6. Can you read any of the following Project Pamphlets ? (See Manual)
Enumerator should display sample pamphlets for the respondent to select those he/she could read.

Language of Pamphlet read	Tick
Krio	
English	
Temne	
Limba	

Readability Codes

Read - 1

Not Read 0

CARD 1

Column	Codes
47	Yes - 1 No - 0

7 Can you read in any other language ? Yes [ ] No [ ]

8 If yes then ask to name the language(s)

_____

_____

_____

_____

* 9 If IDA were to produce more pamphlets on farming what language would you prefer as the medium of Publication ? _____

10 What language is your mother tongue ? _____

11 What other language(s) do you speak other than your mother tongue ?

_____

_____

_____

12. Besides your principal occupation, do you often work in another activity that earns you money ? (see Manual)

Yes ☐ No ☐

* 13. If YES, then ask to name work(s) and the number of times done in the PAST ONE MONTH. Complete table below.

Type of Work	Tick	No. of times last month.
Local Court Membership		
Trading		
Driving		
Wage laboring		
Fishing		
Other (Specify up to 3) _____ _____ _____		

CARD 1

☐ Col. 48

Codes
Yes - 1
No - 0

Columns 49 - 53

Work Code

☐ Court Membership - 1
☐ Trading - 2
☐ Driving - 3
☐ Wage laboring - 4
☐ Fishing - 5

Columns 54 - 56

* Frequency Code

☐ > 1 Week - 1
☐ 1 - 2 Weeks- 2
☐ 3 wks-1 mth- 3

CARD 1

MOBILITY OF FARMERS

14 Have you lived in any other places before ? Yes ☐ No ☐ ☐ Col. 57

Codes
Yes - 1
No - 0

15. If YES, then ask : Where and why did you live there ?

Complete table below : :

Name of Place	Reason(s) for living at place

Household Demography

16. How many people are living in this household ? (See Manual)

_____

☐☐ Columns 58 - 59

Codes
Household size

A. For each present household member give the following details:

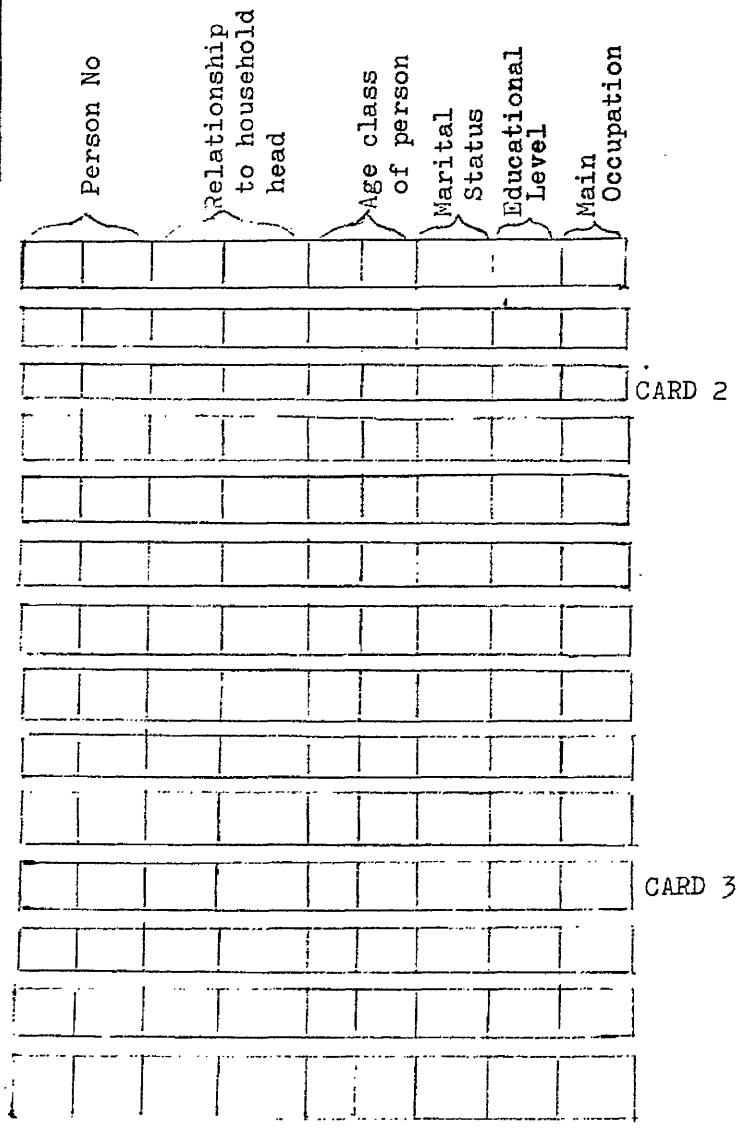
(Read relevant Section of Manual carefully before completing Table below)

	Name	Relationship to Household Head	Age	Sex	Marital Status	Educational Level	Main Occupation
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

CARDS 1, 2, 3

* See Page 9 for detailed coding specifications

Coding Specifn.



A. Household Composition (Contd)

	Name	Relationship to Household Head	Age	Sex	Marital Status	Educational Level	Main Occupation
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							

Coding Specifn.

CARDS 4 & 5

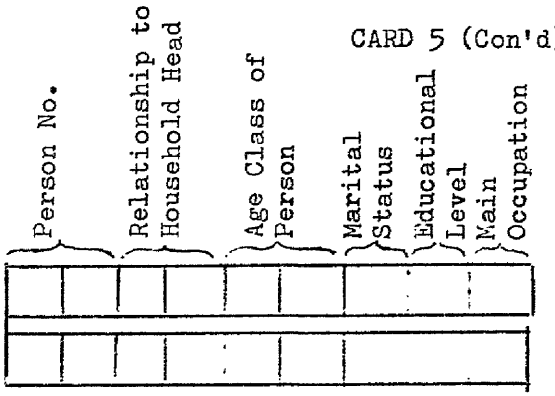
* See Page 9 for detailed coding specifications

Person No	Relationship to household head	Age class of person	Marital Status	Educational Level	Main Occupation	
						CARD 4
						CARD 5

A..

Name	Relationship to Household Head	Age	Sex	Marital Status	Educational Level	Main Occupation

CARD 5 (Con'd)



Coding Convention

Relationship Codes

Wife	- 01
Son	- 02
Daughter	- 03
Niece	- 04
Nephew	- 05
Mother	- 06
Father	- 07
Grandfather	- 08
Grandmother	- 09
Friend	- 10
Other (state)	___
	___

Age Class Codes

>	10 years	- 1
10 - 20	"	- 2
21 - 30	"	- 3
31 - 40	"	- 4
41 - 50	"	- 5
<	50 "	- 6

Marital Status Code

Married	- 1
Single	- 2

Educational Level Codes

No School	- 0
Primary	- 1
Secondary	- 2
Post Secondary	- 3

Contd.

Coding Convention for Household Members

(Contd.)

Occupational Codes

Farming - 1

Trading - 2

Driving - 3

Teaching - 4

* Others (up to 3) _____

_____

_____

Material Possessions

CARD 5

18 Do you own the house in which your household live ?

Yes ☐ No ☐ ☐ Col. 42

Codes

Yes - 1

No - 0

* 19a If YES then complete the following descriptive sentences by inserting a tick (✓) in the appropriate box
The material used for covering the roof of the house is - - -

Thatch ☐ Corrugated Iron Sheets ☐ ☐ Col. 43

Thatch - 1

Iron Sheet - 2

19b The Wall of the house is made up of .....

Mud ☐ Mud with cement skin ☐ Brick ☐

☐ Col. 44

Mud - 1
Mud/Cement - 2
Brick - 3

19c How old is the house (see Manual) ? _____

☐☐ Col 45-46

Age codes
01 - 99

20 Do you own any other house ? Yes ☐ ☐

☐ 47

21 If YES, ask to state number of other houses owned _____

☐ Col 48

22a Do you listen to farming programmes on radio ? Yes ☐ No ☐

☐ Col 49

Yes - 1
No - 0

22b If YES, then ask : do you own a radio ? Yes ☐ No ☐

Tick

☐ Col 50

Yes - 1
No - 0

22c If YES in 22b, then ask: how old is your radio ? _____

23 Do you attend Meetings outside your Village ? Yes ☐ No ☐ Tick

☐ Col 51

Yes - 1
No - 0

24 If YES, then ask : how do you get to a meeting outside your village ? _____

_____

25a Do you own any personal transport (e.g. Bicycle or Honda bike) ?

Yes ☐ No ☐

☐ Col. 52

Codes

Yes - 1

No - 0

25b If YES, ask for type and age of personal means of transport.

Type of Transport	Age since purchase

*26 Do you listen to recorded local music ?

Yes ☐ No ☐

☐ Col. 53

Yes - 1

No - 0

27a If YES, then ask : do you own a tape recorder ?

Yes ☐ No ☐ ☐ Col. 54 Yes - 1 No - 0

27b If YES in Q 27a then ask: How old is your tape recorder ? _____ ☐☐ Col.55-56 Age codes : 01 - 99

LAND USE

28 Do you have an upland farm ? Yes ☐ No ☐ ☐ Col.57 Yes - 1 No - 0

* 29 If YES, then ask : Is your upland farm this year (1979)

BIGGER ☐ SMALLER ☐ or SAME ☐ as that 5 years ago ? (See Manual). Tick. ☐ Col. 58 Size Codes: Bigger - 1 Smaller - 2 Same - 3

30. If BIGGER or SMALLER then ask to give reasons for the change in farm size _____

_____

* 31 Do you have or a tribesman having a cultivated swamp plot this year ? Tick

Yes ☐ No ☐

☐ Col. 59

Yes - 1

No - 2

* 32 If YES, then ask : Is your swamp plot this year (1977)

BIGGER ☐ SMALLER ☐ or SAME ☐ as that 5 years ago ? Tick

☐ Col. 60

Relative Size Codes

Bigger - 1

Smaller - 2

Same - 3

33 If BIGGER or SMALLER then ask to give reasons for the change in swamp plot size _____

_____

34a Have you always done swamp cultivation since you started farming ? Yes ☐ No ☐

☐ Col. 61

Yes - 1

No - 0

34b If NO, then ask: When and why did you start swamp cultivation ? Complete table below.

See Page 15

When Start Swamp Cultivation	Reason(s) for Cultivating Swamp

* 35 Was the harvest from your Upland farm last year (1978) LARGER ☐ SMALLER ☐ or SAME ☐ as that you obtained 5 years ago ?

Tick appropriate box.

☐ Col. 62

Harvest size codes

Larger - 1
Smaller - 2
Same - 3

36 If LARGER or SMALLER ask farmer to state reasons _____

_____

_____

* 37 Was the harvest from your swamp last year (1978) LARGER ☐ SMALLER ☐ or SAME ☐ as that you obtained 5 years ago?

Tick appropriate box.

☐ Col. 63

Codes
As in Q. 35

38 If any change in size of harvest then ask farmer to state reasons _____

_____

_____

39 Given the following sources of labor, how would you rank them in order of importance for your farm work ? (See Manual)

Labor Source	Rank
Household Labor	
Co-operative Labor Group	
Hired Labor	
Migrant labor from Mines	
Free help from friends	

Col. 64 - 68

Rank Codes

Labour Source Codes

Household - 1

Co-operative - 2

Hired - 3

Migrant - 4

Free help - 5

40a Do you regard your children as an important source of labor for farm work ?

Yes ☐ No ☐

☐ Col. 69

Yes - 1

No - 0

40b If NO, then ask : Why ? _____

_____

RISK AND CHOICES

41 Let us imagine that 2 new rice varieties are to be introduced by the IDA, known as Variety 'A' and Variety 'B'. (See Manual).

Variety 'A' gives a r turn of 60 bushels/acre in a good year but only 20 bushels/acre in a bad year

Variety 'B' gives a return of 40 bushels/acre in a good year but only 30 bushels/acre in a bad year.

Which of these two varieties would you like to adopt ?

Variety 'A' ☐ Variety 'B' ☐ Tick

Col. 70 ☐

Varietal Codes

A - 1

B - 2

42. Why would you make that choice ? _____

_____

_____

43. Let us assume you were to choose between Upland farming and Swamp cultivation i.e., you can only do one at any given time (Read Manual carefully).

Which type would you choose ? Upland ☐ Swamp ☐

Col. 71 ☐

Farming type codes :

Upland - 1

Swamp - 2

44. Can you give reasons for your choice in Q 43 ? _____

_____

_____

CARD 5 (Contd)

COMMUNICATION & INNOVATION SPREAD

45. From whom did you first get to know of the IDA Project ?

Information Source	Tick
A relative	
A Co-farmer	
Local Tribal Authority	
IDA Extension Staff	
Other (Specify):	

Col. 72 ☐

Source codes

Relative - 1
Co-farmer - 2
Tribal Authority - 3
IDA Staff - 4

46. What would you say were the most important factors that influenced your decision to join the IDA Project ?

_____

_____

_____

_____

47. Have you been a Member of any other Agricultural Credit Organization previously ? Yes ☐ No ☐

Col. 73 ☐

Yes - 1
No - 0

48. If YES, what is the name of the organization(s)?

_____

* 49. Can you rank the following IDA- recommended Rice Varieties in order of Preference and state the reasons for your preference.
(USE local names of varieties as far as possible)

Rice Variety	Rank	Reason(s)
CP4		
RH2		
BD2		
Nachin 11		
RC4		

50. Do you face any problems in following IDA-recommended farming techniques ? Yes ☐ No ☐

Col. 74 ☐

Yes - 1
No - 0

51. If YES, ask to list problems in order of importance

_____ 1st Problem
_____ 2nd Problem
_____ 3rd Problem
_____ 4th Problem

52. Name 2 arrangements between you and the Project which you think need modification.

_____

_____

** 53. Let us imagine that your income from farming increases by Le100.00 this year (1973). Let us imagine that you can spend the extra income in ONE of the following ways :

(a) Pay school fees for children

(b) Hire more labor in order to increase farm size

(c) Buy more fertilizers and pesticides to increase yield on existing farm.

(d) Save the money.

(e) Buy a radio or cassette tape recorder.

Which of the above would you choose ? _____

54. What do you consider as the most important help you get from the Project ? _____

55. What activities do you think the Project should give up and why ? Complete table.

Activity	Reason

* 56. What are the other involvements of the IDA apart from giving credit to farmers ? _____

_____

_____

THANKS FOR YOUR CO-OPERATION.

Date of Survey _____

Interviewer's Name _____ Signature _____

Edited by : _____

RDRP STAFF

APPENDIX 4

Village _____ Project ▱ Non Project ▱

Farmer No. _____

Access to farmland

Family Land	Upland	Inland Valley Swamp	Boli
Enough	☐	☐	☐
Some, but not enough	☐	☐	☐
None	☐	☐	☐

Borrowed Land ☐ ☐

Rented Land		Am't Paid		Am't Pd.
	☐	☐	☐	☐

Land Purchased ☐ ☐

Own Land Pledged ☐ ☐

Reason for pledging? _____

Own Land Sold ☐ ☐

Reason for sale? _____

Village _____

Farmer No. _____ LABOUR SUPPLY I PROJECT ☐ NON PROJECT ☐

	UPLAND				TRADITIONAL SWAMP				IADP SWAMP				GROUNDNUTS			
	Company		Non Company		Company		Non Company		Company		Non Company		Company		Non Company	
	Days	Persons	Days	Persons	Days	Persons	Days	Persons	Days	Persons	Days	Persons	Days	Persons	Days	Persons
Brushing																
Felling																
Burning																
Clearing																
Stumping																
Bunding/channel																
Ploughing																
Broadcasting																
Puddling																
Nursing																
Fertilising																
Planting																
Transplanting																
Weeding																
Fencing																
Birdscaring																
Harvest																

Labour Inputs

Village _____ Project ☐

Farmer No _____ Non Project ☐

LABOUR SUPPLY II

1. Do you belong to any farm labour 'company' Yes ☐ No ☐

2. If No, do any members of your family belong to a company

Yes ☐ No ☐ If Yes, how many persons ☐

3. During 1978 and 1979 did you do farm work for any other person?

Yes ☐ No ☐

Reason: (tick)		Days
☐	Company member	
☐	Helping friends/relations	
☐	Working for cash	
☐	Working to repay a debt	
☐	Other _____	

FOR IADP FARMERS ONLY:

4. Do you use 'company' labour for IADP farm work:

Yes ☐ No ☐

5. If Yes, which task: _____

_____

_____

6. Comparing the present time with the time <u>before</u> you joined the IADP scheme is the time you yourself spend in the farm working:

More ☐ Less ☐ Same ☐ ?

Reason: _____

_____

7. Comparing the present time with the time <u>before</u> you joined the IADP scheme do you now have to go to farm each day?

Earlier ☐ Later ☐ Same Time ☐

Reason: _____

_____

_____

Village _____ Project Farmers Only

Farmer No. _____

TOOLS

	Tool	No.
1. List IADP tools owned	_____	_____
	_____	_____
	_____	_____
	_____	_____
	_____	_____

If IADP hoe is listed above:

2. i) is the IADP hoe better ☐ worse ☐ or as good as local hoe ☐

ii) if better or worse list reasons: _____

_____

_____

3. i) Have you had any modifications or repairs to IADP hoes by a local blacksmith Yes ☐ No ☐

ii) Specify repair/modification: _____

If farmer uses only local hoes:

4. i) Why did you not purchase IADP hoes

_____

ii) What is the cost of a local hoe (equivalent to the IADP hoe in size) _____

Village _____ Project ☐ Non Project ☐ (tick

Farmer No. _____

Upland Rice — IADP ☐ Non IADP ☐

	Bushels Planted	Bushels Yield	Length of fallow
1976			
1978			
1979			

Swamp Rice — IADP ☐ Non IADP ☐ type - swamp

1976			
1978			
1979			

Groundnuts — IADP ☐ Non IADP ☐

1976			
1978			
1979			

(If more than one farm, fill in appropriate additional sheets)

Livestock Ownership

Cattle	Yes / No	Goat	Yes / No	Sheep	Yes / No
Number?		Number?		Number?	

FARM-BASED INCOME

Village _____ Project ☐ Non-Project ☐

Farmer No._____

1. Produce sold 1978

	Amount	Value	To organisation/ type of trader sold	Produce used for cash to repay IADP LOan
Upland rice	✓	—		
Swamp rice				
Groundnuts				
Maize				
Palm oil				
Palm kernels				
Palm wine				
Tobacco				
Coffee				
Beniseed				
Citrus				
Pineapples				
Sweet potatoes				
Cassava				
Cassave leaves				
Cattle				
Goats				
Sheep				
Poultry				
'Bush meat'				
Firewood				
Others(specify)				
_____				
_____				
_____				

2. Do you have any other sources of income Yes ☐ No ☐

If Yes:

3. Are these other sources of income larger, smaller or equal to income from agricultural produce (as listed above)

Larger ☐ Smaller ☐ Same ☐

Village _____ Project ☐ Non Project ☐

Farmer No. _____

Major expenditure over last 12 months:

	Tick	Rank Inorder	or	Amount
School fees				
Seed				
Implements				
Clothing				
Housing				
Cattle				
Tax				
Others (Specify)				
_____				
_____				
_____				
_____				

Village _____ Project ▱

Farmer No. _____ Non Project ▱

NON-MARKET RICE FLOWS

1. Ceremonies 1978/9

Given by Farmer:	Days	Rice Used	Cash
Marriage			
Funeral			
40 Day			
Circumcision			
Bundu			
Christmas			
Easter			
Others(specify)			
_____			
_____			
_____			

Attended by Farmer: Type + days	Place	Accompanied by wife/s x or

2. Gifts/payments in Kind

	No.of People	Amount Rice	Place
i) Rice used to feed members of family in Freetown, Koidu etc			

ii) Payments in kind to:

	Amount Rice
Blacksmith	
Money lender	
Others: Specify (e.g. for house building) _____	

iii) Gifts/customary payments, e.g.tribute (e.g. visits by chief, and other VIPs)

Village _____ Project ☐ Non Project ☐

Farmer No. _____

1. Sources of advice on farm problem 1978/79

Yes ☐ No ☐

Source:	Tick if Consulted	Place (if outside home village)	Problem(s)
Extension agent	☐	_____	_____
Chief	☐	_____	_____
Diviners	☐	_____	_____
Other community experts (Specify _____)	☐	_____	_____
Friends	☐	_____	_____
Brothers	☐	_____	_____
Sisters	☐	_____	_____
Husbands	☐	_____	_____
Wives	☐	_____	_____
Older relatives (father family)	☐	_____	_____
Older relatives (mother family)	☐	_____	_____
Others (specify _____)	☐	_____	_____
	☐	_____	_____

2. i) How would you classify the knowledge of farmers in this village concerning farming in general (Non IADP activities)

Very Good ☐ Good ☐ Fair ☐ Fairly Poor ☐ Very Poor ☐

ii) How would you classify the knowledge of extension agents you deal with concerning farming in general (Non IADP activities)

Very Good ☐ Good ☐ Fair ☐ Fairly Poor ☐ Very Poor ☐

Village _____ Project ☐ Non Project ☐

Farmer No. _____

1. Innovations	Seen? (Yes/No)	When? First seen	Where? First seen	Used? (Yes/No)	When? First Used	Abandoned? (Yes/No)	Reason
Rice: CP4							
ROK3							
LAC23							
Bunding							
Puddling							
Wet Nursery							
Transplanting							
Fertilizer							

2. For farmers using fertilizer

i) Estimate of bushels INCREASE over previous yield of unfertilized farm (per one bushel of seed planted) ☐ Variety of rice _____

ii) Which variety of rice grown by the farmer (including local varieties) tastes best? _____

tastes worst? _____

3. Would he prefer 10 bushels of the best type of rice ☐ or 12 bushels of the worst tasting ☐ (tick) reason: _____

_____

_____

4. Is the flavour of the rice changed by using fertilizer? Yes ☐ No ☐

Village _____ Project Farmer Only

Farmer No. _____

INDEBTEDNESS

1. Which kind of IADP loan ☐ Swamp ☐ Upland ☐ Groundnuts

2. How did you raise cash to repay your loan this last year?

	Tick	Amount Sold
Rice sales from IADP farm	☐	
Rice sales from Non IADP farm	☐	
Groundnut sales from IADP farm	☐	
Groundnut sales from non IADP FARM	☐	
Produce sales: Coffee	☐	
Palm oil	☐	
Palm kernel	☐	
Palm wine	☐	
Tobacco	☐	
Beniseed	☐	
Firewood	☐	
Citrus	☐	
Others(specify)	☐	
_____	☐	
_____	☐	
_____	☐	
Livestock sales: Cattle	☐	
Sheep	☐	
Poultry	☐	
Money from trading	☐	
Borrowing from friends	☐	
Borrowing from money lenders	☐	
Other sources: Specify	☐	
e.g. hunting, _____	☐	
salary, _____	☐	
pledging land _____ etc.	☐	

3. Does farmer need to i) buy rice during pre-harvest period?
   BUY ☐ Yes ☐ No ii) borrow rice for planting BORROW
   Yes ☐ No ☐

4. Any change when compared with period before joined IDA

   BUYS LESS ☐ Reason: _____
   BUYS MORE ☐ Reason: _____

   BORROWS LESS ☐ Reason: _____
   BORROWS MORE ☐ Reason: _____

5. Have you heard of any cases where people have to borrow from money lender to repay IADP loans?

   NEVER ☐ A FEW ☐ MANY ☐

Village _____ Project ☐ Non project ☐

Farmer No._____

1. Projects/farmers perceptions

	Heard of (Yes/No)	Type of Project?
Njala		
Rokupr		
IADP Makeni		
Mabole Project		
Tormabum Project		
Mara Project		
Magbass Project		
Rolako Project		

2. i) Is IADP Project best described as

Mission ☐ Government ☐ Business ☐

ii) Reason for farmers choice of description

_____

3. What will be the consequences for the Project if loans are not repaid by farmers:

_____

If loans are repaid late:

_____

4. Does he hope his children will be farmers?

Some ☐ All ☐ None ☐ Only those without schooling ☐

5. If there was Le30 to spend on controlling pests (e.g. cutting grass) and on fertilizer how much would he spend on each

PEST CONTROL ☐ FERTILIZER ☐

6. How would he choose to use Le 50 _____

Le500 _____

5 bags of rice _____

7. If there is chance in future would he prefer to:

INCREASE SIZE OF FARM ☐ GO INTO TRADING ☐

Reason for choice: _____

8. Does sickness affect his farming activities more/less/or same now as in past:

More ☐ Less ☐ Same ☐

If more or less: Why_____

APPENDIX 5

INTEGRATED RURAL DEVELOPMENT PLANNING IN SIERRA LEONE

Integrated rural development started with the establishment of the Eastern Area Project in December 1972. Since then three similar projects have been established in other parts of the country. Our present analysis is focused on the Northern Area Integrated Agricultural Development Project, established in 1976. The project has an initial life-span of five years and a projected Phase II (also of five years) designed to add another nine chiefdoms to the initial ten chiefdoms affected by project activities. At the end of this second phase the project will cease autonomous operation and will be absorbed by the Ministry of Agriculture and Forestry.

The principal objective of the project relates to raising the incomes and standards of living of 'near subsistence smallholder farmers' in the region of operation. It aims for 'poorer' farmers in its credit activity but appears to have no means of determining how such farmers are to be identified or where they can be located.

Further aims and objectives include:

(a) the improvement of food crop output via the introduction of (i) improved rice and groundnut seed and (ii) fertilizer provision and (iii) promoting swamp rice cultivation. Adoption of these technical innovations is facilitated by provision of farmer credit, competent village extension work, and improving water supply and farm access roads. The project appraisal report sets targets at ca. 10,000 farms to be reached from a total of ca. 25,000 independent farm decision makers in the region. It is also planned that local crop yields would improve by about 10% during the life-span of the projects.

The planning document of the Northern-IADP reveals a lack of information about the 'target' population. The project area experiences heavy

outmigration of males in the 15-39 age group to urban centres and diamond mining areas. Consequently, there is an intense shortage of agricultural labour. The project initially emphasised a labour-intensive 'innovation' (swamp rice farming) and assumed labour needs would be met from within families. A principal objective of the present study is to assess the validity of this planning assumption (see Chapter 4).

As with the other integrated rural development schemes, the Northern-IADP was established around the assumption that poorer farmers are trapped in a vicious circle of debt and 'undercapitalization'. Project credit (at 10% p.a. interest compared to local rates for unsecured loans of 50-100% p.a.) is cheap enough for farmers to afford and, since most credit is advanced 'in kind', results in real capital investment in agriculture (as opposed to financing 'hungry season' food purchases). The extent to which this assumption is borne out by available evidence provides a major focus for Chapters 5 and 6 of this study.

Material presented in this thesis is based on an 'in depth' study of samples of project and non-project farmers in three villages located in the project area (see Chapter 3). Questionnaires used at various stages of the survey (in addition to participant-observation techniques) are presented as Appendices 3 and 4. The three sample settlements were chosen after an extensive reconnaisance of the entire project area. It is significant to note, however, that the choice of sample settlements was partly constrained by Project Management Unit's desire to get feedback from the villages surveyed.